School and College Placement

The Journal of

THE ASSOCIATION OF SCHOOL AND COLLEGE PLACEMENT

A national organization dedicated to the advancement of the placement activities in schools and colleges, in business, industry and the professions generally, and to the coordination of the educational function with employer requirements, in cooperation with its constituent institutional membership.

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'Tamed' lightning helps to write its brother's story . . .

Lightning—when you consider it in microseconds—is not nearly so impetuous as summer storms might indicate. Before loosing its charge, it sends down advance 'streamers' to plot out the easiest path and makes sure the earth sends up other streamers to meet it. In its downward course it may hesitate 40 times and more . . .

Some strokes are exceedingly slow, building up and releasing their charge in a tenth of a second rather than a millionth. They produce no thunder . . .

More than 95% of our lightning comes from negatively charged clouds . . .

Facts like these are part of the working knowledge of engineers in the G-E High Voltage Engineering Laboratory in Pittsfield, Mass. It's their job to develop lower-cost equipment that will better withstand lightning and that will better protect electric service against it.

To aid these specialists, General Electric recently built a new laboratory, the world's largest lightning center. One of the main tools: the most powerful man-made lightning ever produced.

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Actually, man has known of aluminum for less than 150 years and didn't really start to use it commercially until 1888 when Alcoa started producing it. Yet in Alcoa's employ today is a group of men and women who possess a total of 85,000 years of aluminum working knowledge.

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But here's the most significant point: Sixty-one years ago, when Alcoa started, only five men were employed. Today about a million people have jobs in the aluminum industry, an industry comprised of: Companies who produce aluminum from ore; companies who smelt aluminum scrap; others who make semi-finished aluminum products; and hundreds of companies who manufacture useful articles in which aluminum plays an essential part.

Today the same pioneering spirit that marked the founding of this industry is evident in Alcoa's laboratories, mills and foundries. Here men are developing new uses, new techniques that promise even more for the future of aluminum. ALUMINUM COMPANY OF AMERICA, 2146 Gulf Building, Pittsburgh 19, Penna.

ALCOA FIRST IN **ALUMINUM**

A CHALLENGE FOR YOUNG AMERICA

ROBERT G. SPROUL, *President*
University of California

Dr. Sproul, who was graduated from the University he now heads in 1913 with a Bachelor of Science degree, was active during his undergraduate days in student affairs. He was also a member of the track team and was elected to Phi Beta Kappa, national honorary scholarship society.

Immediately after his graduation, Dr. Sproul began work in the efficiency department of the City of Oakland, but in 1914 left to become cashier of the University. He became assistant comptroller in 1918 and in 1920 was named comptroller and secretary to the Board of Regents.

In 1925 he was appointed vice-president of the University, still holding his appointment as comptroller. On July 1, 1930, he was named to the presidency to succeed William Wallace Campbell. He thus became at the age of 39 one of the nation's youngest university presidents, and one of the few who did not hold a degree of Doctor of Philosophy. Inauguration ceremonies were held October 22 that same year. Fourteen honorary degrees of Doctor of Laws have been bestowed on him.

Among other numerous local, state and national offices, Dr. Sproul is treasurer of the Save-the-Redwoods League, a trustee of the Pacific School of Religion, the Carnegie Foundation for the Advancement of Teaching, the Rockefeller Foundation, the General Education Board, and International House; a member of the national advisory board of the American Red Cross, and a Fellow of the American Association for the Advancement of Science. His decorations include France's Officier de l'ordre National de la Legion d'Honneur, Commander of the Order of the Crown of Rumania, and Knight of the Order of the Iron Crown of Italy.

COMMENCEMENT, the moment of graduation is generally regarded as a time for congratulation, and I do congratulate you most heartily, and your parents as well, whose heavy sacrifices in many instances have made it possible for you to reach this goal. I congratulate you, even though I suspect that the more conscientious of you may be more troubled today about the opportunities you have not taken, than proud of the task you have brought to a triumphant conclusion. This bit of humility in an otherwise proud occasion need disturb no one for whatever may have been your sins of omission, this is Commencement, and the future lies before you. You have youth, and health, and zest, and curiosity, and good will, and courage. Employ these talents to the full, do your own thinking, take long views, keep your faith in the invisible and intangible, and you cannot fail, albeit most of you will probably become neither rich nor famous.

Today you are happy in the memory of four years of dearly cherished companionships, of exciting athletic struggles, and of the exuberance of youth, mitigated more or less by intervals of study, and occasional disillusionizing colloquies with deans or faculty. Most of you have had an amazingly good time here, I am sure. And why not? Nowhere is democracy more relentless, nowhere is each man judged more strictly on his merits, nowhere are honor and courage, loyalty and enthusiasm more clearly the prevailing virtues than on the university campuses of America. Student customs and manners are inevitably bound to change from generation to generation, but nowhere is sterling character more respected, nowhere are the conditions for its development more propitious. The activities of student life offer a rich store of vital and significant experiences to him who can profit by them; and supporting these, indeed creating them, and giving them deeper purpose and meaning, is the professional job — the strictly educational work, for which the university exists.

So today is for each of you a time of nostalgia as well as of anticipation. Behind you lie the bright years of a priceless college experience, before you adventures that any one of us may hint, but that no one may

surely know. Perhaps the contemporary poet, Edward Weismiller, was thinking of you when he wrote:

"He does not know what land he seeks,
Nor what gray mountains he must climb.
He stands to watch the closing peaks
From some divided point in time.

"Behind him lie the level years;
Before him legends dark and great.
He hears the whirling stars. He hears
The beggar by the frozen gate."

Whether I can provide you with directions or sustenance for the journey on which you now step forth, I am frankly doubtful. Once I had a childlike faith in the efficacy of the Commencement Address. But that faith was long ago mortally wounded, and by one who is now a Regent of the University, and on this platform today. For he delivered a commencement address in June, 1914, in which he conclusively demonstrated that the force determining peace had made such progress in the world that there could never be another war. He had hardly stepped off the platform when all the nations of Europe were at each other's throats. While I have always consoled myself that it would have been different had the rulers of Europe been privileged to hear what he had to say, my trust in the Commencement Address has not since been fully restored.

Nevertheless, I can, perhaps, from a slightly longer perspective than yours, diagnose some of the ills of our times, and identify some of the contributing causes, the correction of which could not but have a beneficial effect. One of these ills, certainly, and one which must command our special attention, is the failure of educated men and women, not only in this country but throughout the world, to do any really independent thinking; their reliance upon the mechanics of an industrial society and the machinery of government to achieve results that can be accomplished only through the acts of individuals; their willingness to drift with the currents of contemporary life on the theory that what goes on is either beyond their comprehension, or beyond their ability to combat successfully.

We, who represent, and are the products of the civilization of the twentieth century, may be justly proud of our advances in technology—our airplanes, our automobiles, our frigidaires, and our washing machines—but can we be equally proud of our progress—or lack of it—in the many things which have a more direct bearing upon the human aspects of that civilization—religion, the cultures and the arts, literature, or the home life of the American family? Science has bestowed upon us bounteous gifts wherewith to make our tasks easier and to enrich our leisure; but we have become so deeply engrossed in the machinery of it all that we have lost sight of "the whirling stars." We have forgotten that no machine can be better than its inventor; that neither the mechanics of science nor the machinery of government can produce results inconsistent with the quality of the humans who devise or operate them.

It is almost certain that man will continue to gain more and more control over the physical world. From ancient times to this very day, every aspect of our culture has been affected by the advances of science and technology. The artifacts of man, the food he eats, the clothes he wears, the houses he builds, his means of travel and communication, his prevention and cure of disease, his conduct of war have been shaped by the findings of science. Moreover, these achievements of physical science have come about through the unfettered exploitation of the experimental method, operating at the impulse of free ideas, which is the glory of the university. They have given us a control over physical nature that has in a generation revolutionized our manner of life, and utterly outstripped our ability

to match it with the necessary social, and ethical, and economic readjustments.

Much of this technical advance has been benign in the highest degree. Man has gained control over many diseases which formerly decimated populations and occasioned widespread suffering and sorrow. He has ameliorated innumerable conditions of living and has thus brought greater happiness to thousands. But in the process, there has been wrought much that is ill, temporarily if not permanently. Labor saving devices have impoverished hundreds of thousands who have been thrown out of employment. The machinery of warfare has been made so awful that another war bids fair literally to destroy both man and his civilization. The methods that have been pursued in every war that you and I have known, whereby women and children and other innocent noncombatants are brutally slaughtered quite as a matter of course, represent a reversion to sheer barbarism. These malign acts, it cannot be gainsaid, are the applied products of scientific thought imposed upon a world that had not yet achieved the moral and spiritual controls to protect itself from the misery of their misuse.

We have had a lopsided development of creative thinking directed to physical problems, perhaps because these were the easiest to solve, but probably because they were the problems that interested the men of the industrial age. For always the achievements of men have been determined by their interests even more than by their talents. Aristotle would have been as capable of inventing the steam engine as he was of analyzing the processes by which the tragic drama purifies the soul. The age that produced a Shakespeare could just as well have produced an Edison. And our world—some are wryly saying—has not even noticed that it lacks a Raphael or a Beethoven: it is quite happy with "modern art" and "bebop."

Men began the conquest of nature and the harnessing of nature's forces, fully a thousand years after they could have done so, because it was only then that they became interested. Imagine a Hebrew prophet, a Greek philosopher, or a Roman senator caring what makes garbage rot. Pasteur did care, and the science of bacteriology became a major force in the modern world. More recently, men have cared to know how to make machinery and how to get rich, and so they have done both. When we care about something else, we shall do that successfully, too.

Men have cared, and so mankind has progressed. But—and for too long—they have not taken thought for the social and ethical effects of their caring. There were medieval devotees who cared so intensely for the rapt vision of the crucifixion that it left actual stigmata on their hands and feet. There were conquerors who cared so much to slaughter that they piled the bones of their victims higher than the pyramids. And there are fanatics ruling Russia today who care so much for a formula they read in a book, that they oppress a whole people with incredible privations, and with proselyting missionary zeal, in season and out, abuse and threaten all other types of government and especially democracy. From *your* generation the world needs desperately that earnestness of caring in the areas of spiritual and ethical insight.

For there is a great wind sweeping across the world, so great that no man knows whence it comes or whither it is going. Yet none but the deaf can fail to hear in the noise of its passing, the ominous words: "Get ready." What does it mean? Get ready for what? Men differ in their answers. Some think it means get ready for World War III. It is a terrible and bloody wind if this be true. Some think the wind calls us to get ready for government-made security, with food and warmth and shelter within the regimented reach of every man. But those who thus read the wind, never remind us that the cattle standing

to their halters in their narrow stalls have all these things.

I venture to assert that neither of these interpretations is true, that when the present turmoil in men's minds has quieted down, the eternal verities will still hold sway. I venture to think that the wind, with all its violence and strength, is saying, especially to you, young men and women: Get ready to play your independent parts as free men should; get ready to use and not abuse the great gifts which science is pouring forth; get ready with character, wisdom and valor to defend and enrich the inheritance of culture and liberty into which a benevolent Providence has permitted you to enter. Get ready, says the wind, get ready with better trained minds, more knowledge of the past and reverence for its lessons, higher courage for the future, and a deeper devotion to the cause of human freedom.

Get ready, too, says the wind, to adjust your economic, political, social and spiritual views to new conditions, to changes in environment and altered material forces. But never forget that human nature remains basically the same, and it is human nature that the leaders of men must reach, and inspire, and guide. Remember that shifting conditions are normal on history's long trek, and that they will continue throughout your lifetime. Remember that the principles you have learned in the University are fundamental, and have eternal force and power. But remember, in addition and above all, that your real success in life will be measured in terms of your continuing growth in knowledge and character, by the stature you attain as intelligent, reflective human beings.

Therefore, question authority, respect tradition, love liberty. When authority tries to impose itself upon you without convincing you, ask what its origin is, what its sanctions are, and pay attention only when it gives you satisfactory replies. But respect tradition, because it comes carrying with it, in maxims and institutions, the wisdom of the past. Respect tradition, too, because it is being made new all the time—indeed, you have made, and are making, some of it yourselves. Respect tradition, because it is what you are passing on to the next generation.

Above all, love freedom and liberty, not merely in the vagueness of generalities but in the day to day actualities of political and economic living; and remember that a nation cannot through coercion, effectively control the agricultural, industrial and commercial procedures of its people without control, also, of all the other aspects of their life. From a practical point of view, the absolutist States are quite right in suppressing intellectual liberty as they have done, for there must be no sabotage of the policies of the State if a totalitarian regime is to work at all, and free, moving thought is always a potential disturber of the peace. That is why Communism, with its foundations laid in the complexities of the Marxian Bible, has reduced its universities to institutions for the promotion of propaganda, and its professors, even of genetics, to the status of puppets of the ruling regime.

Not so long ago, that public official whose proud business it is to control and discipline the Soviet press, announced that no such thing as individual liberty exists. "There is no freedom of the individual" he said; "there is only freedom of peoples and nations, for these are the only material and historical realities through which the life of the individual exists." The astounding assumption of this speaker that individuals are not even realities, but merely facets of a community, was answered long ago by Goethe, whose centennial we celebrate this year, in the dictum: "Mankind? It is an abstraction. There are, always have been, and always will be, men and only men."

And so long as there are men, subject to

all the weaknesses and frailties of human nature, there will be points at which the rule of force may be necessary, just as in your community there is need of police in order that riots and personal assaults may be prevented and punished. Certainly, there must be force in reserve — moral force, political force, economic force, and, in last and unwelcome resort, even military force — as the nations slowly make progress toward greater liberty and larger opportunity for all men. The only practical choice is between force dedicated to dictatorial control and force devoted to the survival of democracy.

In taking leave of you, then, I urge and warn you to preserve the priceless American heritage—the heritage of a free, self-governing people, devoid of caste, loving peace, and resolved, at whatever cost, to attain in time the ideal of justice, equality of opportunity, and individual dignity for every citizen. American democracy, as is the experience of all human aspiration and endeavor, has made its errors, its failures, its blunders. But, with all its defects, contrast our republican form of government with that of its autocratic rival, and who can hesitate for an instant in making his choice, or who can doubt that, with patience and intelligence and good will, we shall find the way out of our troubles. Keep our American system of government working and improving, and you will not only be keeping clear the way to the land of promise for yourselves and your children, but you will also be helping to lift from the hearts of men and women elsewhere in the world the awful load of sorrow and suffering and fear which is now crushing them to earth. Whether America shall be exalted or debased depends wholly upon America's citizens and the quality of their leadership. To those who can keep the faith, the way lies straight ahead.

CAREERS IN COAL MINING

M. D. COOPER, *Director*
Mining Engineering Education, National Coal Association
Washington, D. C.

After graduating from Yale University in 1912, Mr. Cooper became associated with the Ellsworth Collieries Company, Ellsworth, Pennsylvania, where he was a member of the engineer corps, shot-firer, timberman and motor boss. He then joined the Ford Collieries Company, Curtisville, Pennsylvania, as safety engineer.

In 1917 Mr. Cooper received his certificate to serve as fire boss and first grade mine foreman in bituminous mines in Pennsylvania. That same year he became superintendent of the Hillman Coal and Coke Company, Pittsburgh, Pennsylvania. He later served as division superintendent.

Mr. Cooper is past president of the Coal Mining Institute of America, the National Mine Rescue Association and The Travelers Aid Society of Pittsburgh.

CHANGES in methods of mining and equipment are taking place rapidly in the coal industry. As one of the oldest industries, it was, until recently, one of the most conservative. Hand methods were the rule. Work was done generation after generation as it had been, and progress was slow. Plans for the development of mines were simple, if they were not lacking altogether. Customs of the locality, in which the mine was opened, governed the choice of the mining system, subject to slight modifications due to local conditions. The pick and shovel were the principal tools, often used in hard daily labor. Mining machines to cut the coal; animals and later locomotives to haul it; and little or no preparation at the shipping point characterized the industry for a long time.

Recently, demand for greatly increased production, high labor rates, and shortage of men during the war have brought in the age of mechanization.

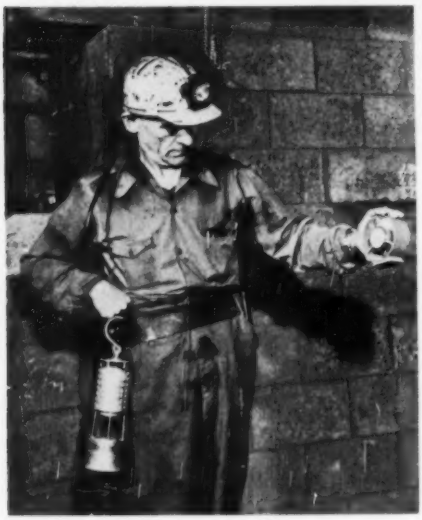
In addition to the undercutting machine, which merely acted as a thick saw to remove a slice of coal, usually from the bottom of the seam, to provide for expansion when the coal was blasted, various types of loading machines were introduced to eliminate the hard work of loading by hand and to increase the speed of loading. That was not enough. Machines were needed to do all of the work. The result was that the continuous miner was developed and placed in service. Other types are planned, or are in the process of manufacture. Perhaps that was the easiest part of the new system of mining.

A machine may be designed to do certain work. It may be built strong enough to give good service in removing the coal from the bed in which nature placed it and loading it into a mine car or other means of transportation. Because of the greatly increased speed of loading, a better system of conveying the coal to the outside of the mine is essential. The problem is not yet solved.

It is evident that a new class of miner will be required to meet the new conditions. He will be a highly skilled mechanic, able to operate or maintain equipment that is both heavy and fast moving. To be successful, he will need a thorough training in the mechanics of machinery and the application of electricity. Since the general run of the miners will be of a higher order, it follows that the supervisors and engineers will also require more intensive training, a fact of which the operators of mines are well aware.

Earnings

The base rate of pay in bituminous mines at present is $14.05 per day of eight hours, the time starting when a man enters the mine and ending when he comes out, so that he is paid while traveling in the mine and during his lunch period. This is the portal to portal method of paying wages. Because the base



AN OFFICIAL MEASURING THE VELOCITY OF THE AIR CURRENT IN A MINE

rates are high, the other rates are at corresponding levels. Engineers, who complete a college course, are generally employed at starting salaries of $250.00 to $300.00 per month. Of course, the demand for engineers varies with the rate of coal production. When the output of the mines is below normal, the need of additional men is slight. However, all indications point toward a larger rate of production during the years to come, with greater need of trained men.

Living Conditions

Many of the modern mines are located near communities of large or small size, so that the operators are not providing living quarters at the plants.

The "Company Town" is disappearing. In former years in isolated places, housing had to be made a part of the investment of the operator. However, the rentals seldom paid for the taxes, repairs, insurance, and depreciation. Therefore, many companies were anxious to avoid the expense of building houses at new plants. During recent years, thousands of houses have been sold to the employees. This has resulted in an immediate improvement in the standard of living due to the fact that an owner takes greater pride in his home than a tenant, as a rule.

In cases where the operator retains ownership of the houses or builds new ones, it is customary to make provision for satisfactory living quarters for the members of the staff and other skilled men.

Club houses often serve a useful purpose in the care of the single men.

High Schools

In the coal mining areas, certain high and vocational schools are offering courses leading to employment in the mines. Others, with no formal courses, are paying more attention to coal in geography, chemistry, physics, economics, and mathematics.

The pioneer course in mining in Pennsylvania is given at Monongahela Township High School at Mepletown, Greene County. An approximate outline of the course is as follows:

SOPHOMORE	JUNIOR	SENIOR
English	English	Mining
Mining	Mining	English
Mathematics	Problems in Democracy	Mathematics
History	Mathematics	Chemistry
Elective	Mapping	Laboratory
Drawing	Elective	Elective

Alternate weeks are spent in the Shop, where repairs are made on mining equipment; basic problems in electricity are solved; and instruction in the operation of shop machines is given.

The mining courses in each year include instruction in geology, mine gases, ventilation,

timbering, draining, transportation, explosives, and mining law.

Colleges

In the report of the Engineer's Council for Professional Development for the year ending September 30, 1948, the following institutions are listed as having accredited curricula in mining engineering:

University of Alabama
University of Alaska
University of Arizona
University of California
Colorado School of Mines
Columbia University
University of Idaho
University of Illinois
University of Kansas
Lafayette College
Lehigh University
Michigan College of Mining and Technology
University of Minnesota
Missouri School of Mines and Metallurgy
Montana School of Mines
University of Nevada
New Mexico School of Mines
University of North Dakota
Ohio State University
Pennsylvania State College
University of Pittsburgh
South Dakota School of Mines
Stanford University
Texas College of Mines and Metallurgy
University of Utah
Virginia Polytechnic Institute
State College of Washington
University of Washington
West Virginia University
University of Wisconsin

The emphasis placed upon the several parts of the mineral industry varies in all of the colleges depending upon the location of the institution and the equipment available. In a metal mining state, it is proper to devote most of the instruction to preparation for service in that field of industry; in a coal mining state, the interest is largely in coal. Therefore, it is difficult to develop an average of the courses offered; but the following tabulation indicates very roughly an approximate curriculum:

FRESHMAN YEAR

	Credit Hours Per Week
Mathematics	5
Chemistry	4
Drawing	3
English	3
Elements of Engineering	1
Geology	1
Physical Education or Military Science	1
	18

SOPHOMORE YEAR

	Credit Hours Per Week
Mathematics	4
Chemistry	2
Surveying	2
Physics	5
Geology	5
Physical Education or Military Science	1
	19

JUNIOR YEAR

	Credit Hours Per Week
Ore and Coal Preparation	4
Mechanics	3
Geology and Mineralogy	3
English	1
Power Equipment	2
Electricity	4
Mining	2
	19

SENIOR YEAR

	Credit Hours Per Week
Electrical Engineering	4
Mechanical Engineering	3
Metallurgical Engineering	3
Coal or Ore Preparation	3
Safety Engineering	1
Mining Engineering	4
	18

The above outline shows that a student gets a good introduction to general engineering in a mining course. Specialized training may be given in graduate years. Because of the importance of the humanities in preparation for administrative duties, there is a trend among the colleges to lengthen the course to five years in order to introduce such courses at the proper time.

Scholarships

Many of the coal companies and some of the coal associations are granting scholarships to the sons and daughters of employees or to qualified students, who complete high school and comply with the terms for admission to college.

Consolidation Coal Company, Kentucky, provides for scholarships at the University of Kentucky, to be used for research. An award of $2,500.00 is made annually, the faculty being authorized to use it for one or more fellowships.

Princess Elkhorn Coal Company, Kentucky, offers two 2-year scholarships to daughters of employees. They are each valued at $425.00 per year and available at Pikeville College. If daughters of employees are not eligible, other students in high schools in Floyd or Johnson Counties will be considered. Each year, two 4-year scholarships are offered to sons of employees to study at the University of Kentucky. The company gives $400.00 to each student and makes available employment during the summer.

Sahara Coal Company of Illinois offers a series of scholarships of $200.00 each at the University of Illinois, and also fellowships at a higher rate for graduate work. Selection is made by members of the faculty.

Pittsburgh Coal Company has three scholarships at $300.00 each at Pennsylvania State College. Scholars are chosen by examination.

Johnstown Coal & Coke Company offers two scholarships of $500.00, one to sons of employees in Pennsylvania, and one to those in West Virginia.

West Virginia Coal Association offers eight scholarships at West Virginia University at $625.00 per year. Recipients are chosen by competitive examination held throughout the state.

These are a few scholarship plans selected from more than one hundred in force in the United States to illustrate the range of grants and the general rules governing selection. The National Coal Association, Southern Building, Washington 5, D. C., has detailed information available on this subject.

Work in the Mines

When a graduate of high school or college is employed at the mines, he is generally given some sort of training course, either informal under the direction of one or more officials, or in a regularly organized program. He may start in the engineering department as a rodman or rear chainman, progressing to transitman, and chief of party, and eventually to the higher engineering grades. To the department is assigned the work of surveying, preparation of maps, location of buildings, foundations, mine openings, control of development, and testing new equipment. The industry requires constant additions to the staffs of the departments.

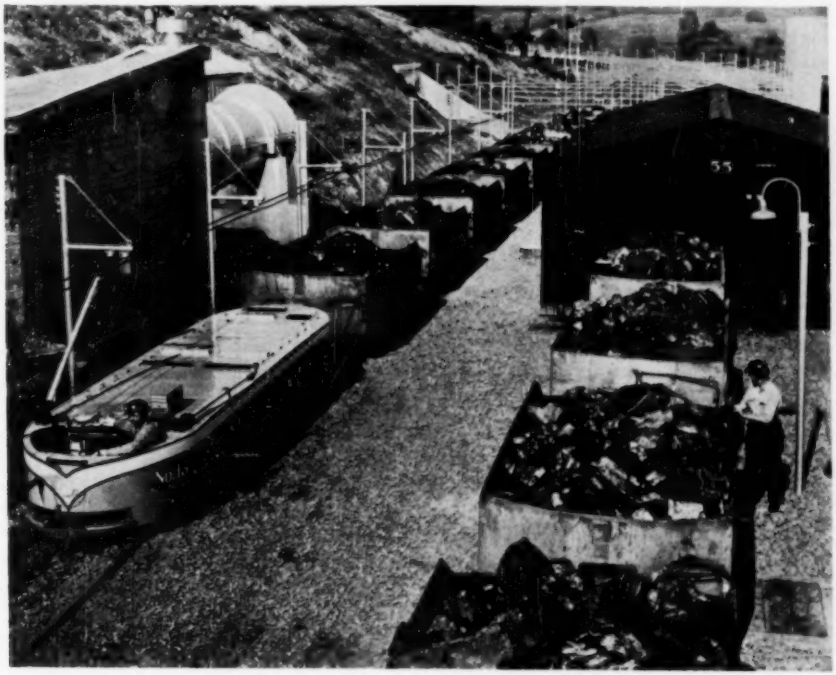
The supervisors and higher officials in the operating organization have a good foundation when they started in engineering. However, it is possible to work up from routine jobs in the mine, such as helper to the timberman or tracklayer or mechanic. Experience gained in those jobs is thoroughly useful. Much must be done to keep pace with modernization of mines. New timbering methods are being tried, especially the use of steel rods four or five feet long driven into holes drilled in the roof, secured by an expansion device at the back end of the hole, and drawn tight by a

plate and nut at the outer end of the rod. This, in effect, is the same as making a strong beam by fastening several planks together. Undoubtedly, such rods will not serve as safe roof support in every case, but enough work has been done to show that, where they are applicable, the roof may be kept safe.

Scarcely a factor in the operation of mines may be considered static. Not only are improvements being made in roof control, but also in mining and transportation, as previously noted. Ventilation, a vital part of the daily work, is still to be improved, in spite of excellent progress in recent times. Drainage, especially difficult in the anthracite mines, offers great opportunity for the development of plans for handling large quantities of water from considerable depths at costs lower than those now possible.

Coal cleaning is a rapidly expanding part of mine operation. As long as coal was mined by hand, the individual miner could be counted upon to remove at least some of the impurities from the coal. With the greatly increased use of loading machines, cleaning of coal in large preparation plants on the surface requires a force of especially trained men of which the present supply is limited.

Safety, a most important part of the work of the operating department, has made steady progress with general improvement in the record for several years. Much remains to be done. Good planning, intelligent and faithful supervision, combined with honest



A LOCOMOTIVE ARRIVING AT A TIPPLE WITH A TRIP OF LOADED CARS

cooperation on the part of the workers, will make any job safe. The causes of accidents and their prevention are known. Therefore, they can be eliminated. To do so will require the patient work of many careful safety engineers, capable of bringing about a determination on the part of management and labor to do that which they know they ought to do.

Research in the production and use of coal is being carried on in several great laboratories, in colleges and universities, and by individual companies. The field is so large and the problems so important that it may be said that the work is little more than well started.

Labor difficulties have been well advertised in the coal industry for generations. It is evident that experts in the field of labor relations have much to do. The industry is making rapid progress in mechanization. Because of that fact, it is reasonable to suppose equally good progress can be made in labor relations, when sufficiently prepared men are in places of responsibility throughout the industry, both in management and in the organizations of labor.

Uses of Coal

Generally, it is thought that coal is a source of heat, light, and power. So it is. But it is more than that. As a source of coke, it is essential to the steel industry. As a source of material for the chemical industry, it is at the base of an almost unlimited number of products.

Gasification of coal in place is being attempted for the second time by the U. S. Bureau of Mines and the Alabama Power Company at Gorgas, Alabama. The successful outcome of this work may lead to the recovery of the fuel value in beds of coal too thin to mine by conventional methods, or too impure to be marketable, or covered by roof too soft to permit safe mining.

Pittsburgh Consolidation Coal Company and the U. S. Bureau of Mines are carrying on independent research in pilot plants to produce gas and liquid fuel from coal, having in mind the approaching time when the supplies of natural gas and petroleum will begin to decline.

Work is being done by various agencies in studying means of preventing air and stream pollution. Coal is often held responsible for air pollution, when it is only one of a number of causes. Drainage from mines is likewise only one of the industrial wastes that go to form the ingredients of stream pollution. These problems will be solved, but they must be concluded without destroying the basic industries upon which the welfare of the country is so largely dependent.

Conclusion

The coal industry is changing rapidly from hand to mechanized methods. It provides good rates of pay with improved living conditions to those who are trained or are capable of being trained to take an active part in the many phases of its activities, both in production and use of coal. The industry is both progressive and basic in the general welfare.

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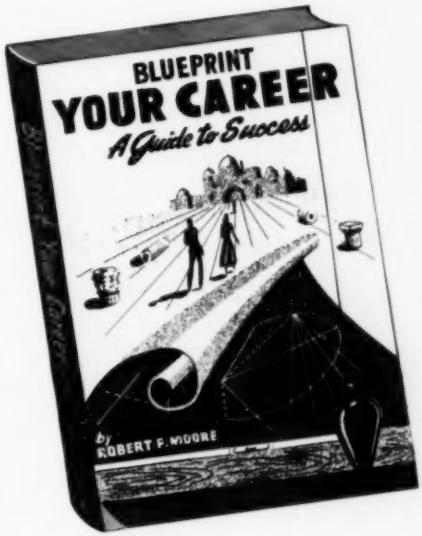

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DANIEL S. CHEEVER, *Assistant Professor of Government, Harvard University*
Cambridge, Massachusetts

Mr. Cheever was a member of the Department of State from 1945-46. He has also served as special assistant to the Secretary General of the United Nations Conference at San Francisco and as a staff member of the Foreign Affairs Task Force of the Hoover Commission on Organization of the Executive Branch.

In addition to his duties as Professor of Government, Mr. Cheever is also Associate Chairman of the Committee on International and Regional Studies, in charge of the International Affairs Program, of Harvard University.

RECENT events have thrust the mantle of world leadership upon the shoulders of the United States. It alone among the Great Powers emerged from World War II prosperous and unexhausted. For the present at least the United States stands first among the nations as a world power.

Responsibility, however, is the inevitable concomitant of power. To assume its grave responsibilities of world leadership the government of the United States must frame wise policies and insure their successful implementation. Wise policies will be forthcoming only in the event that the services of trained men and women are at the disposal of our national government. American schools and colleges can do much to ensure a sufficient source of such trained personnel.

In an effort to frame a peaceful world order the United States has renounced a policy of isolation and limited international commitments in favor of a policy of international collaboration involving heavy political, economic and social commitments. U. S. membership in the United Nations and in a number of "specialized agencies" dealing with such problems of international concern as health, drug control, communications and labor standards is a case in point. Under the ECA program vast sums of money and the knowledge and skills of American financiers, industrialists and labor leaders are being utilized to establish a stable world economy. Under the terms of the North Atlantic Pact this government has undertaken grave political and military commitments designed to forestall aggressor nations. It is the policy of the United States to facilitate the extension of technical assistance to "under-developed" areas (the Point IV Program) in order to promote world peace. Such a wide program of international cooperation calls for the skills of many trained men and women to serve overseas and in Washington in such agencies as the Department of State, the Foreign Service and the Economic Cooperation Administration, to name only a few.

The opportunity to serve the United States abroad has increased as this government has assumed the responsibilities of leadership. For example the personnel of the Department of State and the Foreign Service in Washington increased from 963 in 1938 to 5652 in 1948. Overseas the increase was from 3749 Americans and aliens in 1938 to 12,294 in 1948.

The Foreign Service

In the formulation and implementation of foreign policy the Foreign Service of the United States plays a vital role. While the conduct of the foreign relations of the United States is the responsibility of the President in American constitutional practice, he is assisted by a trusted agent, the Secretary of State; a skilled staff, the Department of State; and an experienced field agency, the Foreign Service. Primary responsibility for the representation of United States interests abroad falls, therefore, upon the Foreign Service. Its members must be skilled intelligence agents, for the authorities in Washington cannot frame wise

policies without accurate information regarding political, economic and cultural developments abroad. Its members must be intelligent, loyal public servants able to carry out the steps necessary to execute a given policy. To accomplish these aims Foreign Service officers must establish and maintain friendly relations between the government and people of the United States and the governments and peoples of countries with which we maintain diplomatic relations. They must intrepret faithfully the viewpoint of the United States on any question at issue.

As in other areas of public service a Foreign Service Officer is "under orders." Yet a wide area of discretion and a high degree of intellectuality are essential for the execution of orders. He (or she) must be willing to accept assignment to any foreign post including international organizations. A Foreign Service Officer must, it is evident, be a person of outstanding character. Hardship may well be his (or her) lot in a number of posts. A memorial to those officers who lost their lives while on duty stands near the front entrance of the old State Department building, a silent witness to the courage of those who have served in the Foreign Service of the United States.

A Foreign Service officer must bear responsibility easily. He must be readily adaptable, for his work will vary from the routine to the most exacting. His loyalty and trustworthiness must be of the highest, for the interests of all Americans, indeed the interests of the world, rests constantly upon his shoulders.

Finally, a Foreign Service Officer must realize that his life is less his own than is the case with most Americans. His wife must share his conviction that a career spent mostly abroad in the service of the United States is desirable. She, too, must possess physical and nervous endurance. Above all she must enjoy the company of all types of people and possess an intellectual interest in travel and world events.

American Citizenship a Prerequisite

A candidate for the Service must be an American citizen and have been such for at least ten years for appointment as a Foreign Service Officer. An applicant for appointments in other capacities such as Staff Officer or Staff Employe must have been an American citizen for five years. With certain exceptions officer candidates must be over 21 and under 31 years of age. Staff candidates for clerical positions must be at least 21 and not over 35 years of age. Staff candidates for technical and administrative positions should be between the ages of 30 and 46. Women are eligible for employment in all ranks of the Foreign Service provided they are not married and do not have dependents. College graduates will in the main be interested in the officer category, the members of which actually form a minority so far as the total Service is concerned. High-school graduates may serve as Staff Employes.

Foreign Service Officers are appointed by the President with the advice and consent of the Senate. With the exception of the Foreign Service Reserve, a relatively small group of officers on temporary assignment, Foreign Service Officers start their career in grade 6, the lowest of seven grades. The Reserve Officers are appointed by the Secretary of State to temporary posts at any grade depending upon the skill and experience of the officer and the requirements of the job to be done.

Examinations

Candidates for the Foreign Service must pass competitive written and oral examinations and a physical examination—all prescribed by the Board of Examiners of the Foreign Service which by law is charged with the examining of candidates. The written examination includes four general examinations "designed to measure the depth and quality of a candidate's intelligence and

knowledge." In addition, there are special examinations in History, Government and Economics and in any one or two of the following languages: French, German, Portuguese, Russian and Spanish. These written examinations are usually held annually in the fall in various cities of the United States and in diplomatic and consular posts abroad. Prospective candidates may obtain all necessary information including sample examination questions from the Board of Examiners for the Foreign Service, Department of State, Washington, D. C.

It is evident then that college training with emphasis on the social sciences is a prerequisite for a career as a Foreign Service Officer. A knowledge of economics in particular has become a *sine qua non* of the modern expert in foreign affairs. Other fields, however, such as cultural anthropology and social psychology, are challenging the more traditional disciplines, such as history, government and economics, in equipping the Foreign Service Officer to cope with the problems of international relations. The requisite knowledge of foreign languages may often be attained while satisfying college requirements, but candidates often find it advisable to polish their language proficiency in some manner before taking the exams. Travel abroad is, of course, helpful from many points of view, but is by no means a prerequisite.

A knowledge of American institutions and history is essential. If American interests are to be adequately represented abroad, Foreign Service Officers must know and understand the United States. So important is this factor that recent legislation makes mandatory the assignment of Foreign Service Officers to posts within the United States at regular intervals.

Once admitted to the Service, an Officer is assigned to the Foreign Service Institute for "in-service" training and instruction of a very

high calibre. Furthermore, officers returning to the United States for a tour of duty may also be assigned for further instruction to the Institute, to specially qualified universities or to agencies of the government other than the Department of State. This highly developed program of "in-service" training has been in existence since the passage of the Foreign Service Act of 1946 and ensures that all officers will continue to receive training and instruction of a high order throughout their careers.

The Foreign Service insists that there is no way to ensure acceptance into the Service by cramming for the exams. The best preparation, it is held, is to be had in the better American undergraduate colleges. The fact remains, however, that many officers have entered the Service after graduate training—generally in law, business, or international affairs. Both graduate and undergraduate institutions in the United States have enlarged their course offerings in the international field since the war. Some offer degrees specifically designed to equip students for careers abroad in government service. In recent years Foreign Service Officers are being drawn from an increasingly wide range of American colleges and universities.

Salaries

The Foreign Service Act of 1946 made notable salary increases for both Staff and Officer personnel. Officers designated as Chiefs of Mission receive salaries ranging up to a maximum of $25,000. The salaries of other officers are as follows:

	Minimum	*Maximum*
Career Minister	$13,500	$13,500
Class 1	12,000	13,500
Class 2	10,000	11,900
Class 3	8,000	9,900
Class 4	6,000	7,900
Class 5	4,500	5,900
Class 6	3,300	4,400

Foreign Service Reserve Officers receive the same pay as for classes 1 to 6 above.

There are 22 classes of Foreign Service *Staff Officers* and *Staff Employes* with salaries ranging from $10,000 maximum in Class 1 to a $1,030 maximum in Class 22.

All members of the Service with satisfactory records receive annual salary increases depending upon the class to which they are assigned. Fairly liberal living and quarters allowances are made, depending upon the nature of the post to which an officer is assigned. Any employe of the Service receives transportation expenses for himself and his family from his residence to his post abroad. Sixty days' annual leave with pay are authorized, and there is a liberal retirement plan. Congress, by enacting wise legislation, has done much to open up careers in the Foreign Service to promising young men and women regardless of their wealth or station.

The job opportunities open to a Foreign Service Officer are on the whole stimulating. His first term of duty will be one of orientation in the United States in various government agencies and educational institutions. He will then serve abroad, most probably in a junior capacity, for two years before becoming eligible for his first home leave. Abroad he may look forward to serving as Vice Consul or Consul early in his career. Later he may become Counselor of Embassy or Legation. The Chiefs of Mission are now being drawn increasingly from the ranks of the Service. It is now possible, therefore, for an officer to look forward to "reaching the top" in his mature years.

Although Foreign Service Officers are traditionally "generalists" able to supervise any aspect of the work of a foreign mission, specialization has been inevitable in the conduct of foreign affairs. The officer with special training in technical and economic fields will

doubtless find an opportunity to exercise his talents. "Specialists" such as mineral attachés, treasury attaches, etc., however, are drawn generally from outside the service, but they are subject to the authority of the Chief of the Mission to which they are assigned.

In sum, the Foreign Service of the United States is a highly professionalized career service not unlike military service in some respects. Its members are dedicated to the public service and are men and women of high professional and moral standards. Selection and promotion are based on talent and not influence. It continues to be a highly desirable career.

The Department of State and Other Agencies

While Foreign Service officers on assignment to the Department of State occupy many of the key positions, the great majority of employes of that Department are members of the Civil Service as is the case with other departments and agencies of the Federal Government. Most young men and women, therefore, who desire careers dealing with the foreign affairs of the United States will be members of the Civil Service. Many will find employment in the Department of State. Others will work in departments such as Commerce, Agriculture or Treasury, which cooperate with State through interdepartmental committees in conducting the foreign affairs of the United States. Others will find jobs with the Tariff Commission, ECA or the National Military Establishment. Whether in the State Department or other agencies civil servants may be assigned to U. S. delegations at the U. N. and other international organizations and conferences.

The job opportunities in the Federal Government are too wide to be discussed at any length here. Employes are generally in one of two categories: professional (P) or clerical,

administrative and fiscal (CAF). Those with professional rating in the Department of State are the "specialists" and include economists expert in such matters as oil or international finance. Others may be political scientists and historians expert in the history, institutions and culture of other lands or in such matters as public opinion, international law or cartography. Language specialists do important work in the translating section of the Department.

Many of the CAF category work in the administrative side of the Department under the Assistant Secretary for Administration. In this capacity they work closely with the Bureau of the Budget and other administrative agencies of the Government. The United States overseas information program calls for the employment of skilled radio technicians, of librarians and news analysts. In short, many skills and talents are required in the Federal Government, and nearly all departments and agencies are to some extent involved in foreign policy today.

Civil Service salary scales do not extend as high as do those of the Foreign Service. The basic salary for those in the CAF category extends from $2,086.00 for CAF-1 to $10,305.00 CAF-15. The basic salary for professionals extends from $2,974.80 for a P-1 to $10,305.00 for a P-8. Civil servants receive 30 days' leave a year and 15 days' sick leave. They also receive retirement benefits.

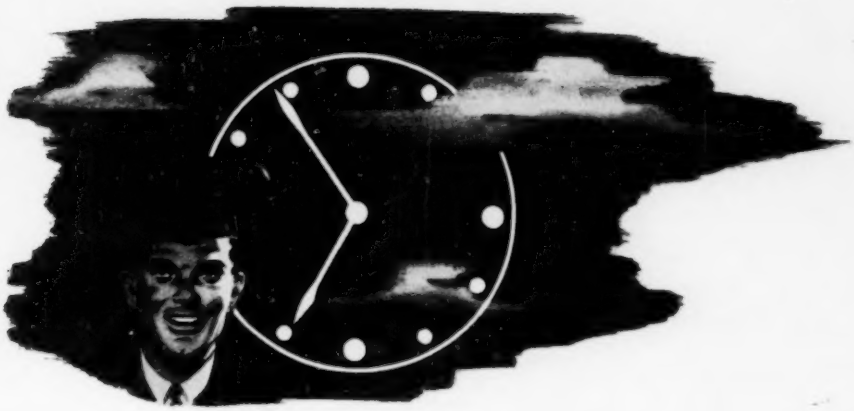
Graduate degrees are a commonplace in government service including the Department of State and are to be found in both the professional and administrative categories. This does not mean that graduate training is by any means a prerequisite for government service. It does mean that Civil Service employes often enter government service later in life than is the case with the Foreign Service, which is a lifetime career service. It does mean that the Federal Government needs trained lawyers, economists and experts in public administration. Obviously, however, thousands of Federal employes in the clerical and fiscal categories possess only a high-school education.

New responsibilities for the United States in world affairs have entailed new opportunities for men and women in the public service. The demand for foreign affairs specialists has by no means been satisfied, and advancement in some areas of activity continues to be quite rapid. Competent college or high-school graduates of good character will find immense satisfaction in that part of the public service of the United States engaged in the conduct of foreign affairs.

The Association records with sorrow and regret the untimely death on Wednesday, August 31, 1949, of

DR. JOHN ALFORD STEVENSON

scholar, teacher and distinguished insurance executive who served the Association as Honorary Chairman of its Membership Committee, having had an important active part in the early expansion of the Association's activities.



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COUNSELLING APPLICANTS FOR DENTAL SCHOOL

L. E. Van Kirk, *Dean*
School of Dentistry, University of Pittsburgh
Pittsburgh, Pennsylvania

A graduate of Washington and Jefferson College, Dr. Van Kirk received his D.D.S. from the School of Dentistry, University of Pittsburgh, and his M.S. from the same institution.

He served as an instructor in the School of Dentistry before becoming Dean.

Dr. Van Kirk is President of the Y.M.C.A., Pittsburgh, and member of the American Dental Association, International Association for Dental Research, Committee on Dentistry, National Research Council and the Pittsburgh Board of Education.

THERE are few decisions a young person makes that can rank in importance with that of his choice of a career. There may have been a time in a less complex society, in the days of early pioneering and development, when any choice of career would be satisfactory. There were openings for anyone who could do anything worth while. As society became more complex and work more specialized, training was essential—fields were narrowed, interest and ability became more important factors in the choice of one's life work.

In the nineteenth century this training was available to very few because of limited facilities as well as the expense involved in higher education. However, as the lower educational levels were broadened and public education advanced to the secondary levels, more facilities in colleges and state universities were made available. Education for professional careers thus became a possibility for many young people. Recently, this opportunity was temporarily denied many by the influx of veterans of World War II who took advantage of the training offered them by the government. In professional schools ten to twenty applications are received for each place in the school. Competition for admission has led to the development of a highly objective method of selection in many professional schools. Under these conditions the importance of the counselor at the high school and college levels of education is evident. He should be qualified to answer many pertinent questions. Who should enter professional schools? Who will be able to meet the requirements? Who will be graduated and practice successfully?

The counselor is the key person to help answer these questions and give some guidance to the prospective professional student. While entirely satisfactory answers for none of these questions may be possible, there is much information available to help the counselor in his work. The questions here discussed will pertain particularly to dentistry, but all the professions—law, medicine, pharmacy and the others have similar problems of the same serious character.

Regardless of a young man's interest in dentistry, and a life-long desire to become a dentist, he should be aware of certain facts which may help him in the proper choice of a career. He should be concerned with such questions as the following:

What are the critical requirements for success in dentistry?

What are the opportunities for the future development of dentistry or what may we expect as our social and economic structure changes?

What are basic requirements for admission to dental school?

What are the possibilities of successfully completing the course in dental school?

What can I do now to assure my acceptance into dental school?

What are the costs of dental education?

What are the possible income returns after graduation?

What are the critical requirements for suc-

cess in dentistry? The answer could be sharpened somewhat by defining "success." Success may mean a variety of things—financial, professional, social, and many others. We could make our answer more specific by substituting effectiveness for success. Usually effective dentists are successful in one or more areas.

Although dental educators have recognized the importance of answering this question, there has been no adequate research or study that has established the proven critical requirements for effective dental practice. The literature reveals many ideas or hunches of these requirements. Fouchard (1), the father of modern dentistry, observed in 1728 that "All of these operations (dental) demand a skillful, steady, and trained hand and a complete theory." These two general areas are still important—theory and skill, to which must be added those attitudes or factors of personality which are an essential part of effective dental practice. Our answers at present lack specificity.

Until we can further refine the requirements and be assured of their critical nature we must accept such qualities as manual dexterity, visual space discrimination, sense of form, and the meticulous care in the execution of intricate dexterity tests. Besides these, such things as general intelligence, scientific knowledge, ability to read and interpret should be accepted as important requirements. Attitudes and personality factors could include judgment, decision, tact and courtesy, cheerfulness, aggressiveness, initiative and on and on until we could include all those non-specific factors which would be important for success in any field. Brown (2) names 21 of these factors. Recently some effort has been made by Dr. Wagner (3) at the University of Pittsburgh to determine which of these many traits of character or personality are essential for effective dental practice. Once these specific characteristics are established, interview techniques will be devised to ascertain whether the applicant for dental school possesses these essential traits of character or personality.

Testing Programs

The Council on Dental Education of the American Dental Association has set up a testing program to determine the validity of certain standard tests which might be used in the selection of dental students. The results of these tests are correlated with the subsequent work of the student in his course in the dental school. This work was started in 1947, under the direction of Dr. Shailer Peterson, now secretary of the Council of Education of the American Dental Association. The program was to be operated for five years on an experimental basis. The American Dental Association program consists of the usual standard tests in the fields of science, reading, and objective visualization, with a carving test to measure manual dexterity. The reports of the students' progress from the schools, when correlated with the results of the tests, validated their high predictability as to the success or failure of the student in dental school. The results have been so successful that plans are now being made to use the validated tests on a national basis by all schools. The results of the applicant's tests will be forwarded to the dental school that he desires to attend. The school will make whatever use it cares to of this material in the selection of its students.

During the experimental period many dental schools used tests similar to those of the American Dental Association program, in order to select the best qualified students. The tests were supplemented by a personal interview in most schools. These programs also showed good correlation and have added weight to the validity of the American Dental Association tests.

At the University of Pittsburgh, in cooperation with Dr. John Flanagan and Dr. Ralph E. Wagner, of the Psychology Department, tests

were given to two hundred applicants selected from the entire group on a basis of quality point averages in their pre-dental college course. In the following table is shown the correlation of the tests (the variable), and the student grades in theory and technic courses (the criterion).

Correlation of Tests and Subsequent Grades of Dental Freshman University of Pittsburgh (3)

Variable	Criterion Theory	Technic
Predental QPA (required courses)	.51	.02
Predental QPA (elective courses)	.28	—.06
Science Test	.18	.16
Reading Comprehension Test	—.04	.04
Carving Aptitude Test	.10	.28
Space Relations Test	.01	.12
Figure Construction Test	—.04	.23
Finger Tracing Test	.06	.00
Pattern Tracing Test	.05	—.03
Interview	.15	.04
Total Weighted Composite	.72	.09

The answer to the question "What are the critical requirements for success in dentistry" or for effective dental practice is to be found in three areas described above, namely, general scholastic ability, manual dexterity and for the present those personality traits that make for acceptance and success in any social setting.

Future Development

Dentistry as well as any other health service profession faces the possibility of some change in the present scheme of its professional service. Bills are now before Congress for a national health program that might change the private practice system to some form of prepaid compulsory insurance. Such a program where tried, as in Great Britain, becomes extremely expensive for the government and due to lack of personnel leads to careless dental service. However, any radical change in our present system is unlikely at present.

The United States Public Health Service, The Veterans Administration, the Army and Navy offer great opportunities for young dental graduates of superior ability to do research work and render dental service in these various Federal services. This work is expanding rapidly, its quality is being elevated.

Many residencies and internships are available for the young graduate dentist, who desires to take advanced training and enter some field of specialization.

Requirements for Admission

The minimum requirements for admission to Schools of Dentistry are:

(1) Graduation from an accredited four-year high school or preparatory school. The subjects in the high school course required by states for pre-professional education may vary. These requirements may be found by inquiring from the college in which the pre-professional training will be followed.

(2) The completion of two years of study in an accredited college or university. This means the acquiring of 60 credits with a quality point average of C or better. The credits must include one year's work in English (6 credits), Biology (6 credits), Physics (6 credits) and Inorganic Chemistry (6 credits). In addition one-half year's work in Organic Chemistry is required. The balance of 60 credits may be taken in science, mathematics or any of the cultural courses in the college.

Applicants should be cautioned that while C is the minimum requirement, very few applicants, if any, are accepted with such a low average. The importance of a good scholastic achievement record in college should be emphasized at the beginning of the pre-dental course. It is an essential qualification for admission.

The health of the applicant should be considered at this time before he starts on his career in dentistry. The dentist stands on his feet for much of the day, his hours are long, the work confining and requiring close concentration on small objects at all times. Certainly any physical defect that might interfere with the routine of dental practice should be evaluated carefully and if detrimental to concentrated, confining work, the applicant should be directed to another field. Good vision is essential, either normal or corrected by glasses.

Completing Successfully the Dental Course

As a result of testing programs, it seems quite certain that some prediction can be made as to the student's progress in the dental course with reasonable assurance of success or failure. The grades in theoretical work in the dental courses are predicted best by the quality point average in the required subjects: English, Chemistry, Biology and Physics. At the University of Pittsburgh the correlation factor was .51. The ability to pass the technical courses requiring manual skill is predicted by the carving test and objective visualization tests. Here the correlations were .28 and .23 respectively. In the selection of students for dentistry these are the tests that should be weighted as being most valid in predicting success in the School of Dentistry.

Assuring Acceptance

Many dental schools are selecting their students as a result of a very objective testing program. Letters from politicians, alumni, trustees, and others with influence are being given much less weight than the results of honest effort to evaluate a student's ability to succeed in school and practice. One prime prerequisite is a good scholastic record in college. A failure here is fatal—nothing can compensate for a low quality point average. This is an important criterion in early screening of applicants. Early tests for digital skill or objective visualization could predict fairly well the success or failure of an applicant in the technical course, which are an important phase of dental education. This would be especially valuable in screening out those who were very poorly qualified in this area. The prospective dental student should think seriously of the implications of entering dentistry with this apparent weakness. While the interest of the applicant in hobbies such as airplane

making might be of some value, certainly *no* interest whatever in creating objects with one's hands should be weighed very carefully by the counselor before advising a student to enter dentistry.

Cost of Dental Education

The cost of dental education varies greatly in the various sections of the country. In 1941 the Council on Dental Education published the total expense for one year of academic work including tuition, fees, books and instruments, supplies, board and room as varying from $655 to $1251.(4). The costs are considerably higher today. The annual expenses without board and room would probably be from $600 to $1200, depending on the school selected. The tuition and fees have been raised in the last few years, so that inquiry should be made to the dental school which the applicant expects to enter.

Equipping an Office

A dentist, in order to practice modern dentistry must begin with several pieces of very expensive equipment. The dental chair and unit, cabinets, x-ray machine, sterilizer and laboratory equipment will require an outlay of from $3500 to $4000. Fortunately most dental dealers are ready to furnish the necessary equipment to a reliable young dentist, and allow him to spread the payment over a series of monthly installments. The fact that this procedure is followed by the dealers in dental equipment indicates that a very high percentage of young dentists are successful.

Incomes of Dentists

The incomes of dentists vary in different areas, and at different times in the dentist's career. Average incomes are not very meaningful when they include figures from dentists in new as well as old established practices —rural and urban communities, industrial and farming areas or incomes from various sections of the country where economic values differ widely. The American Dental Association and the Department of Commerce have cooperated for several years in making a study of the income of dentists. The average net income from non-salaried dentists from these studies are approximately:

1943 — $5767
1944 — $6732
1945 — $6842
1946 — $6781
1947 — $7043

The 1948 figure is predicted at about $8000.

While a professional career has many advantages such as independence and reasonable financial security, the applicant for dental school should consider seriously the necessary educational qualification, the financial obligation both for training and establishing his practice and the chances for his ultimate satisfaction and success. At the time when the student is making his choice, the counselor should have all the facts to help the student arrive at the best possible decision in the selection of a career.

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WHAT ABOUT FOLLOW-UP?

DOROTHY REEVES, *Chairman*
Secretarial Department, Fairleigh Dickinson College
Rutherford, New Jersey

Miss Reeves' first interest in placement began when she worked her way through college by assisting in the Placement Bureau at Iowa State Teachers College. Since that time she has been associated with placement bureaus in several schools.

She served as an instructor in a United States Naval Training School during World War II. In addition to her regular teaching, she has had considerable experience in adult education and office management.

A graduate of the Van Sant School of Business, in Omaha, Nebraska, Miss Reeves received her B.A. degree from Iowa State Teachers College, her M.A. degree from New York University and is now working for the Doctorate at the same school.

She is the author of "A Filing Manual for Secretaries" and is a member of Pi Omega Pi and Delta Pi Epsilon honor fraternities in business education.

IN a recent study made by the writer of 150 of our leading public and private universities, colleges, teachers' colleges, and junior colleges with respect to placement facilities and reported in an article entitled "Placement as a Function of Guidance," in the May, 1948, issue of SCHOOL AND COLLEGE PLACEMENT, it was found that the schools were, on the whole, doing a rather sketchy and inadequate job of placement and that the best interests of the graduates were not in most cases being served.

Having picked the "cream of the crop" of our colleges and universities the country over, and having been left with a bad taste in our mouths, we are left with dozens of questions. We say to ourselves: Is the product which the schools of higher education are turning out satisfactory? What is being done to find out? How often is a check made if he is not satisfactory? Is he being helped to make readjustments? In other words, is the college selling a bill of goods which it is willing and able to stand back of? Will the goods stand inspection?

With these points in mind, the colleges were questioned as to visitation of graduates, follow-up of graduates, and assistance in readjustment on the job. The results were in many cases just as startling, if not more so, than those shown by the placement bureau study.

Before launching into findings of the study, let us briefly define what is meant by visitation, follow-up and assistance in readjustment on the job.

Definition of Terms

By "visitation" is meant the study of the work situation by a field worker, visiting teacher or member of the placement or alumni office staff so that a representative of the college or university is in touch with the organization employing its graduates whether that organization be a bank, a school, or an industrial plant. Moreover, the implication is further that the school shall know the functions of the job to be performed and the role which the graduate should properly play in that job.

By "follow-up" is meant some contact with the graduate in the work situation whether it be by means of a letter, the visitation outlined above, or a standard form to be filled out by the personnel department of the employing firm, the president of a college, or the superintendent of a school. A system of follow-up is further meant to convey that it is a standard and definite function and service performed by the college and one with which the graduates are thoroughly cognizant.

By "assistance in readjustment on the job" is meant that service which the graduate receives as he enters the employment field and

continues to receive as long as he needs it, the establishment of a give-and-take relationship in which he is free to come to the Alma Mater for help and the school in return is not only ready but willing and anxious to give such help. It may mean only the explanation of minor details with which the graduate is confused and which can be straightened out in a few minutes. It may be a deep-rooted problem, a matter of social or job adjustment with which the candidate is unable to cope. It may be a case of inadequate training, training of the wrong kind, lack of fitness for the job, or a feeling of newness and lonesomeness which overwhelms the candidate and looms frighteningly in proportion to its importance. It is in adjusting to these problems and many others that the college should be ready to extend a helping hand. It is not that the college must solve them for the candidate now that his school days are over, but that he needs help at this point to help himself.

Discussion of Findings

Out of the 150 schools to which the questionnaire was sent, 120 replies were received, the group being divided as follows: 33 state universities, 33 private universities, 11 public colleges, 24 private colleges, 8 teachers' colleges, and 11 junior colleges.

In looking at the overall picture, we find that 84 schools or 70 per cent say that they have some type of visitation of graduates, but when we break down the findings to study what type of visitation is made we find that out of the 84 schools only one school or .835 per cent, a state university, has "frequent" visitation. This seems a deplorable fact. Twenty-one schools, or 17.5 per cent, have occasional visitation; 15 schools, or 12.5 per cent, say that they seldom have visitation, and 36 schools, or 30 per cent, admit that they have no visitation.

In the matter of follow-up of graduates on the job, 95 schools out of 120, or 79.1 per

cent, state that they have "some" follow-up. Only 13 schools, or 10.8 per cent, have frequent follow-up; 12 schools, or 10 per cent, have occasional follow-up. Eleven schools, or 9.2 per cent, state that they seldom follow-up graduates, and 25 schools, or 20.8 per cent, frankly admit that they make no follow-up of graduates.

A still smaller number of schools than the number doing visitation and follow-up are giving any assistance in readjustment on the job. Only 80 schools, or 66.7 per cent, state that they give some assistance; 6, or 5 per cent, give frequent assistance; 14, or 11.7 per cent, give occasional assistance. Twenty-two schools, or 18.4 per cent, state that they seldom assist. Thirteen schools, or 10.8 per cent, state that they give assistance when they happen to find that it is needed. Twenty-three, or 19.2 per cent, will give assistance when the graduate contacts the school. Forty schools, or 33.3 per cent, state that they give no assistance in readjustment on the job.

When we study each group separately, hoping that the situation in some group of our schools will be different and feeling that the picture certainly cannot always be as dark, we seem to come up with almost an identical situation in each case to that of the overall group. Briefly, the state university group, comprising 33 schools, shows some visitation in 28 schools, or 93.5 per cent. However, one school, or 3.33 per cent, has frequent visitation; 4 schools, or 13.3 per cent, have occasional visitation; 6 schools, or 20 per cent, seldom have visitation, and 5 schools, or 16.6 per cent, have no visitation. The percentage having any follow-up and any assistance in readjustment on the job is practically the same. In frequency of follow-up and frequency of assistance in readjustment, we find 2 schools, or 6.66 per cent, as compared with 1 school, or 3.33 per cent. Three schools, or 9.99 per cent, state that they seldom do any follow-up. On readjustment there seems to be a little more activity with 5 schools, or 16.7 per cent, giving occasional assistance; 8, or 26.7 per cent, stating that assistance is given when they are contacted. At the same time 8 schools, or 26.7 per cent, state that they seldom give any help.

Private Universities

The private universities show a smaller number of schools doing any visitation, follow-up, or assistance on the job. At the same time a higher percentage of schools state that they do nothing in these three areas, running 10 schools, or 33.3 per cent, on visitation; 9 schools, or 30 per cent, having no follow-up and the appalling number of 13, or 43.5 per cent, giving no assistance on the job. Those stating that they have visitation, follow-up and assistance range from 0 to 6.67 per cent. Thus the total activity in these three fields is considerably less than in the state universities.

Public Colleges

The 11 public colleges, which were purposely separated from the large state universities because in most cases they vary in the nature and scope of work and in type of student served, showed a still smaller percentage of schools making any attempt in these three areas. Eight schools, or 72.7 per cent, stated that they had any type of visitation; the same number reported follow-up of any type, and only 5, or 45.5 per cent, give any assistance in readjusting on the job. Four, or 36.4 per cent, did frequent follow-up, but no school in the group reported frequent visitation or frequent assistance. This is most discouraging. A noteworthy fact, however, is that a smaller number of public colleges reported absolutely no activity than was the case with the group of private universities. Three, or 27.3 per cent, reported no visitation; the same number reported no follow-up, and 6, or 55.6 per cent, reported no assistance on the job.

The 24 private colleges made an even poorer

showing. Twelve, or 50 per cent, indicated some visitation, and the same number make no visitation whatsoever. On follow-up, 19, or 79.4 per cent, indicate that they have some, and 5, or 20.8 per cent, have none. Fourteen of them, or 58.1 per cent, give some assistance in readjustment on the job, while 10, or 41.7 per cent, give none. No private colleges indicate that they have frequent visitation; 3, or 12.5 per cent, have frequent follow-up and one, or 4.17 per cent, has frequent readjustment on the job.

Teachers' Colleges

When we come to the Teachers' Colleges, the group which we should normally expect to do a good job of follow-up, we find that 5, or 62.5 per cent, have some visitation; 7, or 87.5 per cent, have some follow-up, and 5, or 62.5 per cent, give some assistance on the job. None of the schools have frequent visitation or follow-up and only one school in the group gives frequent assistance in readjustment on the job. More than a third of the group, 37.4 per cent to be exact, have no visitation and no assistance on the job. One school has no follow-up. This finding is especially startling since a number of schools, writing an explanatory letter with the questionnaire, apologizing for their lack of service staied that their teachers' training department did much better.

Junior Colleges

The junior colleges do not do quite as well as the state universities, but about the same as the public colleges and the private universities, which after all is rather an encouraging sign when we consider that the junior colleges are new institutions, and we cannot expect that all departments will be as well established as in schools of long standing. Eight, or 72.7 per cent, report that they have some visitation; 9, or 81.6 per cent, report that they have follow-up, and the same number give some

assistance in readjustment on the job. Only 3, or 27.3 per cent, report no visitation. Two, or 18.2 per cent, report no follow-up or assistance in readjustment on the job.

It is interesting to note in studying all types of schools that 13, or 10.8 per cent, out of the group of 120 state that they give help when it is needed, and 23, or 19.2 per cent, give help when they are contacted by the graduate. This is a hopeful sign.

From the tables we may draw the general conclusions that a large per cent of all the schools studied give lip service to visitation, follow-up, and assistance in readjustment on the job, namely, 70 per cent have some visitation, 79 per cent have some follow-up and 66.7 per cent give assistance on the job. However, the frequency of service in each case is quite a different matter—less than 1 per cent have frequent visitation, 10.8 per cent have frequent follow-up and 5 per cent frequently give assistance on the job. This is in itself a scathing criticism of our leading colleges and universities, of which we have made a study, expecting the finest policy, to say nothing of the startling revelation that 30 per cent admit having no visitation, 20.8 per cent have no follow-up and 33.3 per cent give no assistance in adjustment on the job.

We are led to wonder what the rest of the colleges and universities are doing if our largest, most renowned, and oldest institutions are doing no more than this. Lack of visitation, follow-up, and assistance on the job means failure to succeed on the part of many young people, frustration, great unhappiness, loss of thousands of dollars in earning power, loss of added thousands spent by hard-working parents from which they had a right to expect a fair return in terms of happiness and success for their sons and daughters. Yet this is America, a land of promise and opportunity, the most richly endowed country in the world, the country offering the most in the way of educational opportunity.

We begin to wonder if perhaps we are getting too excited about this follow-up service because we have done most of our teaching in the practical arts and in the private school where the follow-up has to be done, the graduate has to fill the bill, or the doors have to be closed. But we realize that such is not the case when we turn to some of the recent literature in our own and related fields and note the feeling of prominent educators in such matters. For instance, Principle XXII, in Principles of Business Education, the Eighth Yearbook of the National Association of Business Teachers, states[1], "It is the responsibility of the school to maintain an adequate personnel program which provides guidance for each student in the problems of personal living, educational choices, occupational choice and training, and occupational adjustment. Occupational rehabilitation involves the retraining of the student for a second job, should his first experience not prove satisfactory. Responsibility for such readjustment should not be avoided or left to chance. Guidance should not end with last day the student attends school, but should be available for the occupational adjustments that must be made by all beginning workers. This does not mean that a school will make decisions for a student or will move him around in the occupational world from job to job as a player moves his men on a checkerboard. Diminished guidance as a student grows in the power to make his own choices independently is recognized as an essential part of the guidance program. There is little evidence of too much guidance or guidance continued too long. On the contrary, guidance ends abruptly with the termination of formal schooling and the bewildered beginning worker is left to make his perplexing occupational adjustments alone. Moreover, he does not feel free or welcome to continue his contacts with the school or to

[1]National Business Teachers Association, Eighth Yearbook, *The Principles Of Business Education*, page 104.

come to them on his own initiative for further guidance."

It is through visitation, follow-up and assistance in adjustment on the job that the colleges keep in touch with employment needs. From *Education and Economic Well-Being in American Democracy*, we note a report of the National Resources Commission, which is definitely related to our problem and the seeming lack of knowledge, cooperation, and understanding between the world in which we learn and the world in which we work. This committee states[2], "We have been developing a rapidly shifting occupational pattern. Perhaps the most characteristic feature of contemporary occupational life is the instability of employment opportunity. Within the span of a few years century-old occupations and grades are reduced to minor importance or disappear altogether and new ones take their places. The wheelwright, the glass blower, and the bookkeeper give place to the automobile mechanic, the factory operative, and the statistical clerk. Both the range and the quality of occupational opportunity are subject to sudden shifts due to such factors as advances in technology, changes in the consumption habits of the people, expansion or contraction of purchasing power, or fluctuations in prices and wages." It is only through keeping its thumb on the pulse of industry through visitation and follow-up that the school of higher education can possibly ascertain whether it is keeping abreast of the times and actually meeting the needs of industry. Follow-up and related services are not only beneficial and essential for the graduate, but are badly needed by the school rendering the service and by society as well.

Significant Comments

The comments seem to take two definite directions: In the first place, there would seem to be general dissatisfaction with all follow-up and related service in many schools of all types. In the second place, the schools are not only quick to state their dissatisfaction, but definitely state the reason for conditions as they are, and in some cases indicate that they feel changes coming with reorganization of services.

The significant comments and the implications would seem to indicate: (1) that the schools are still experiencing the good times and the heavy enrollment brought by the close of World War II and the influx of G.I.'s but that they definitely feel a recession and decreased enrollments will make it necessary to do more for the graduates. (2) Personnel and funds have not kept up with the increased numbers which the schools are called upon to serve, and many schools are not now physically able to do the kind of job they should like to do. (3) Many schools sense a need for more service along the line of follow-up, visitation and assistance on the job, and many have already made plans for these for another year. With a third of all schools answering the questionnaire indicating a dissatisfaction with conditions as they are and regretting that more is not done, conditions are likely to improve.

That conditions in a few schools are very satisfactory at the present time and an excellent job is being done is very clearly shown by the literature submitted. For instance, Princeton University states in its brochure explaining its personal services:[3] "It is not enough for Princeton University to believe in the quality of its education; it must also believe in the acceptability of its product—young men. An education for freedom is of little value unless its possessor can be effective. The educational process at Princeton imposes a continuing responsibility for the effectiveness of that process for each man. The University

[2]Educational Policies Commission, *Education And Economic Well-Being In American Democracy*, page 88.

[3]Staff, *Princeton Personnel Services*, page 1.

welcomes that responsibility, and meets it, through the Personnel Services."

The Fullerton Junior College, Fullerton, California, renders a distinct service to the graduate and improves its own effectiveness through a questionnaire which it sends annually to those graduates who have been out from one to five years. It inquires as to difficulties encountered on the job, types of work done, numbers of jobs held, and number working in line with their training make it possible for the College to render its graduates of the future a distinctly better type of service each succeeding year.

Through annual follow-up the Placement Bureau of the Iowa State Teachers College checks on all of its graduates and seeks to learn the causes for the successes or failures of former students who have obtained teaching positions.

Harvard University feels that the right start is important and assists the students before follow-up and readjustments come by putting in the hands of each graduating senior the little booklet, "On Finding Your First Job."

North Texas State Teachers College, through its placement service, makes available a number of pamphlets to its students, among them a Follow-Up Service Booklet. The booklet gives information under four major headings: (1) Assistance In Residence (2) Placement In the Field (3) Assistance In The Field (4) Guidance In The Field. In closing, the booklet states:[4] "In summarizing the procedures followed in assisting teachers to succeed in their teaching positions, we may note that this college:

(1) Offers counsel and guidance to teachers when beginning their training, stressing the development of those qualities that are necessary to their success as teachers.

(2) Compiles an abstract of teaching qualifications as a basis for recommending them to positions.

(3) Assists them in getting positions for which they are best qualified.

(4) Counsels with young teachers before they go into their first jobs.

(5) Gets reports at the beginning of their work.

(6) Offers any assistance that seems necessary during the school year.

(7) Gets a final report on the year's work. This report helps determine what should be done for teachers before the next school year.

(8) Keeps an annual, up-to-date record of the professional and academic progress of all graduates of the institution. Thus, at any time, almost any type of experienced teacher whose success is known, can be obtained for positions in the larger school systems or colleges."

The work-study plan in operation at Antioch College, Yellow Springs, Ohio, by its very nature must of necessity work hand in hand with the student on the job and with the employer. A modification of this form of assistance would be most effective for any graduate. In the Antioch College Bulletin, the following statement appears:[5] "When an employer opens a job opportunity to students, a college representative through personal conference and correspondence gains as thorough an understanding as possible of the qualifications, duties, and working conditions of the job.

Working closely with both students and supervisors, he recommends for the employer's approval a student whose background, training, and personal qualifications seem to fit the job, and whose interest is such that he wants to apply for it."

"The employer has the opportunity to study

[4] Farrington, E. H. *The North Texas State Teachers College Follow-up Booklet*, pages 5-6.

[5] *Antioch College Bulletin*, pages 2-3.

the student's qualifications ahead of time and accept or reject them. Once a student-worker is placed on a job, the College representative tries to keep in close touch with both student and employer."

"At the conclusion of each term of employment, the supervisor sends the college a report on the student's performance; that report, which is the student's 'grade,' and the credit for work periods are as essential to his graduation as his class grades and credits. Thus, in every sense, the employer is a part of Antioch's program of education."

Conclusions

This brief glance at some of the work being done in some of the colleges would seem to reassure us and make us feel that all is not inadequate. However, to review the picture as a whole we cannot help drawing the following conclusions:

1. Visitation, follow-up and assistance in readjustment on the job are not only inadequate in a large number of our most outstanding schools but woefully lacking in many.

2. The state universities seem to be doing the best job and the private universities the next best.

3. There is enough dissatisfaction and admission of inadequacy by those already working in the field so that with concerted effort on the part of enough interested persons great strides might be made.

Recommendations

1. Our colleges and universities should follow in the footsteps of industry by giving a little more concern to their product and to effectiveness in performance.

2. To insure their permanency and continued effectiveness as institutions of higher learning, their presidents and deans in conjunction with accrediting associations should study the situation and set standards for all schools and colleges. Furthermore, once standards are set up and a system of follow-up inaugurated, regular inspections of the services should be made.

3. Furthermore, it would seem that even with the suggested plans of the President's Commission on Higher Education to give education of college grade to increasing numbers, the boom period for most of our institutions of higher learning is at an end. It will be necessary for their leaders to increase their effectiveness, to render a greater and better service in the years to come if they are to meet competition and continue to live when the waiting lists have vanished, when the veterans have had the education to which they are entitled, and when students with the necessary tuition fees are hard to find.

RESULTS OF QUESTIONNAIRE SENT TO 150 LEADING SCHOOLS OF HIGHER EDUCATION CONCERNING THEIR VISITATION, FOLLOW-UP, AND ASSISTANCE IN READJUSTMENT ON THE JOB

	State University		Private University		Public College		Private College	
	No.	%	No.	%	No.	%	No.	%
No. REPORTING VISITATION	33		33		11		24	
Any	28	23.4	23	19.2	8	6.6	12	10.0
Frequent	1	0.8	0	0	0	0	0	0
Occasional	4	3.3	5	4.2	3	2.5	5	4.2
Seldom	6	5.0	3	2.5	1	0.8	1	0.8
None	5	4.2	10	8.3	3	2.5	12	10.0
FOLLOW-UP								
Any	28	2 . .	24	20.0	8	6.6	19	15.8
Frequent	2	1.6	2	1.6	4	3.3	3	2.5
Occasional	2	1.6	5	4.2	1	0.8	1	0.8
Seldom	3	2.5	1	0.8	1	0.8	2	1.6
None	5	4.2	9	7.5	3	2.5	5	4.2
ASSISTANCE IN READJUSTMENT ON THE JOB								
Any	27	20.3	20	16.7	5	4.2	14	11.7
Frequent	2	1.6	1	0.8	0	0	1	0.8
Occasional	5	4.2	3	2.5	2	1.6	2	1.6
Seldom	8	6.6	4	3.3	3	2.5	2	1.6
When Needed	3	2.5	0	0	1	0.8	8	6.6
When Contacted by Graduate	8	6.6	7	5.8	2	1.6	4	3.3
None	6	5.0	13	10.8	6	5.0	10	8.3

	Teachers College		Junior College		Total	
	No.	%	No.	%	No.	%
No. REPORTING VISITATION	8		11		120	
Any	5	4.2	8	6.6	84	70.0
Frequent	0	0	0	0	1	0.8
Occasional	2	1.6	2	1.6	21	17.5
Seldom	2	1.6	2	1.6	15	12.5
None	3	2.5	3	2.5	36	30.0
FOLLOW-UP						
Any	7	5.8	9	7.5	95	79.1
Frequent	0	0	2	1.6	13	10.8
Occasional	0	0	3	2.5	12	10.0
Seldom	3	2.5	1	0.8	11	9.2
None	1	0.8	2	1.6	25	20.8
ASSISTANCE IN READJUSTMENT ON THE JOB						
Any	5	4.2	9	7.5	80	66.7
Frequent	1	0.8	1	0.8	6	5.0
Occasional	0	0	2	1.6	14	11.7
Seldom	1	0.8	4	3.3	22	18.4
When Needed	0	0	1	0.8	13	10.8
When Contacted by Graduate	2	1.6	0	0	23	19.2
None	3	2.5	2	1.6	40	33.3

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OPTOMETRY AS A CAREER

H. W. HOFSTETTER, *Dean, and Director of Education and Research*
Los Angeles College of Optometry
Los Angeles, California

The author received his optometric training at the Ohio State University School of Optometry. He then continued his graduate work in physiological optics at the same university, receiving the M.Sc. degree in 1940 and the Ph.D. degree in 1942. In 1948 he resigned as Associate Professor of Optometry at Ohio State to accept his present position.

Dr. Hofstetter has contributed numerous articles pertaining to research in physiological optics and clinical optometry to the American Journal of Optometry and Archives of American Academy of Optometry, as well as other professional journals. In 1947 he edited the Manual of Ocular Tests for the American Optometric Association, and in 1948 authored a comprehensive book on the professional, legal, and economic aspects of optometry.

What is Optometry?

Optometry has been defined in a very broad sense as the art and science of visual care. More specifically it may be described as the art or practice of correcting visual anomalies for the purpose of securing best vision with a minimum of effort. Typical legal definitions identify it as "The measurement of the powers of range of human vision or the determination of the accommodative and refractive states of the human eye or the scope of its functions in general or the adaptation of lenses or frames for the aid thereof."

By natural development certain practices readily identified with eye care have become integral parts of the practice of optometry. Of special interest are such phases as orthoptics, visual training, contact lenses, and occupational optometry. These activities demand the basic optometric training but are not so familiarly associated with the more routine services of the optometrist, namely examining and refracting the eyes and adapting lenses as the need is indicated. The public has acquired most appreciation for the field of refraction alone through its familiarity with certain technical terms such as myopia, hyperopia, presbyopia, and aniseikonia, and through direct experiences with reading lenses, telescopic lenses, bifocals, trifocals, and, not least of all, the many types and styles of ophthalmic frames and mountings, both functional and glamorous.

Orthoptics consists of disciplines designed to correct and prevent the development of squint or strabismus, popularly called cross-eyedness, wall-eyedness, etc. The essential aim of orthoptics is to establish or re-establish binocular co-ordination.

Visual training is a relatively modern development having as its foundation the psychology and psycho-physiology of vision. Visual training has been developed in response to the increasing demands of reading and other more exacting pursuits incidental to modern living. The act of seeing is regarded as a skill, or a combination of skills subject to training toward greater precision and efficiency with greater ease. New procedures and improved instrumentation are aimed at increasing the span of recognition, speed of recognition, and similar psychological aspects of seeing.

Contact lenses, first developed many decades ago, has been so improved that now they are considered quite practical for use in situations where, for cosmetic or other reasons, it is desired to avoid the wearing of regular spectacles. There are a limited number of conditions in which the contact lens offers the only satisfactory correction. On the other hand there are visual needs which can be met only by spectacle lenses.

Occupational or vocational optometry relates to the analysis of visual problems inherent in classified occupations, as in education and industry. The placing of employes in jobs for which their visual qualifications indicate special fitness, or conversely the avoidance of placing persons in positions for which they are visually handicapped is optometric engineering of inestimable value. For example, in the schools such items as lighting, seating, posture, type size, ceiling and wall finish, etc. are of major optometric concern. Visual disorders of occupational or vocational origin represent another aspect of optometry, more properly called preventive optometry.

Optometric Education

Schools and colleges of Optometry are accredited by the Council on Education and Professional Guidance of the American Optometric Association. Practically all State Boards of Examiners in Optometry are guided by the accreditation of the Council. Current accreditation calls for a five year curriculum at the college level. Most of the colleges offer only the specialized studies of the last three or four years, with the requirement of the one or two years of prescribed courses in an Arts and Science College for admission. The pre-optometry collegiate requirements typically include mathematics, bacteriology, biology, chemistry, physics, and psychology, together with a share of the humanistics and social sciences, languages, and English. Minimum grade requirements of "C" or better are adhered to, but in recent years the large number seeking admission automatically has had the effect of raising the grade necessary for acceptance.

The specialized upper division or professional optometric curriculum embraces such subjects as general and ocular anatomy, physiology, and pathology; physiological and psychological optics, geometric and physical optics; mechanical and ophthalmic optics; illumination; theoretical and practical optometry; clinical practice in refracting, orthoptics, dispensing, and special testing; statistics and survey techniques; and professional ethics, economics, and practice management.

The Graduate Schools of two universities, the Ohio State University and the University of California, offer programs of study and research in Physiological Optics leading to the M.Sc. and Ph.D. degrees. These programs are designed especially to prepare career teachers in optometry and researchers in physiological optics.

Accredited Schools of Optometry

The following constitutes the list of Schools and Colleges of Optometry accredited by the Council on Education and Professional Guidance of the American Optometric Association:

SCHOOL	DEAN OR DIRECTOR	LOCATION
Chicago College of Optometry	Eugene Freeman	Chicago, Ill.
Columbia University Courses in Optometry	Clifford L. Treleaven	New York, N. Y.
Los Angeles College of Optometry	H. W. Hofstetter	Los Angeles, Calif.
Massachusetts School of Optometry	Ralph H. Green	Boston, Mass.
Ohio State University School of Optometry	Glenn A. Fry	Columbus, Ohio
Pacific University College of Optometry	Richard Feinberg	Forest Grove, Ore.
Pennsylvania State College of Optometry	Lawrence Fitch	Philadelphia, Pa.
Southern College of Optometry	W. R. Cramer	Memphis, Tenn.
University of California School of Optometry	Kenneth B. Stoddard	Berkeley, Calif.

Professional Degrees

The degrees earned in Optometry vary considerably. The majority of graduates now receive the Doctor of Optometry degree. This is the degree offered by all but one of the independent colleges of optometry and by one of the university schools upon completion of the five year program. Two universities offer the Master of Optometry degree and one offers the degree Bachelor of Science in Optometry. The degree Doctor of Optometric Science is an honorary degree.

The American Optometric Association has exerted considerable effort to standardize the earned degree Doctor of Optometry, to be abbreviated O.D.

License to Practice

In all States, the District of Columbia, and the Provinces of Canada candidates for licensure must present evidence of graduation from an approved school of optometry and pass a professional examination by a board of examiners in optometry for the state or province in which the candidate wishes to practice. In all of the states and provinces laws have been enacted to provide for licensing, registration, and the regulation of the practice of optometry.

Courtesy American Optical Co.

RETINOSCOPY, A FAMILIAR TESTING PROCEDURE IN A ROUTING OPTOMETRIC EXAMINATION. THE LARGE INSTRUMENT IN FRONT OF THE PATIENT'S FACE IS A PHOROPTER

Opportunities in Optometry

Optometry offers to men and women of superior ability a most attractive career. While optometric aptitude itself is not too easily defined, certain general traits are recognized as favorable to success. General ability in the sciences, with a degree of originality and mechanical ingenuity, is particularly advantageous in isolated private practices. The primary physical qualifications are good hearing, good visual acuity, and high manual dexterity. Good voice characteristics and conversational ability greatly facilitate the consultation type of discourse in which an optometrist is so continuously engaged. The person-to-person contacts between the optometrist and his patient makes a confidence-inspiring personality a priceless asset. One who is of even temperament and who naturally shows an extreme degree of patience is most likely to obtain a real enjoyment in the work of this profession.

The great majority of optometrists (more than 85%) go into private practice. The others make their careers in military service, hospitals, health centers, industrial vision programs, ophthalmic research, optometric teaching, etc. Private practitioners in larger communities frequently specialize in contact lens work, visual training, etc.

There are many reasons why a private practice presents a real attraction. The office hours can be readily controlled by an efficient appointment system. The work does not require great physical stamina. Working conditions are clean and pleasant. Opportunity is provided for wholesome participation in community activities and civic affairs. Cultural and recreational pursuits are readily integrated into the optometrist's daily life.

Finances

In general the length of preparation and the cost of professional equipment for opening a practice will run somewhat below that for medicine or dentistry. Practice growth is characteristically slower than in medicine or dentistry, but a more substantial security in later years is the reward. Large fortunes in optometry are indeed rare, but there is equally good evidence of few financial failures. Over a long period of years including at least one major depression optometrists have averaged net incomes of $2,044, $3,140, $4,060, and $5,499 in their first, third, fifth, and tenth years of practice respectively. The average optometrist reaches his peak income in about his twenty-first year of practice.

Selecting Optometry as a Vocation

Many people do not become familiar with an optometrist's services until late in life. The importance of good vision is not easily impressed on the individual at the youthful age when he is exploring for a vocation. It is an interesting fact that inquiries concerning optometry as a career come in a large degree from older men and women. The vocational adviser can serve a real need by making a special effort to acquaint young men and women with the profession.

ENGINEERING GRADUATES AND THE FUTURE

FRASER JEFFREY, *Assistant to Chief Electrical Engineer*
Allis-Chalmers Manufacturing Co.
Milwaukee, Wisconsin

Mr. Jeffrey received his Electrical Engineering degree from the Toronto Technical School, Toronto, Canada. After graduation he was employed as a draftsman at the Polson Works, Toronto, and later obtained a position as an engineer with the Bullock Electric Company of Cincinnati, Ohio.

When Allis-Chalmers absorbed Bullock, Mr. Jeffrey was transferred to the parent plant in Milwaukee, where he has been instrumental in the design of electric motors and the development of a wide variety of special electrical equipment. He has done considerable technical work pertaining to equipment design and application and the analysis of many special engineering problems. In addition, he has been actively interested in engineering students, both undergraduates and those enrolled in industrial graduate engineering training courses, and student affairs in general. Many of the trainees have been associated with him on special problems which were under his jurisdiction and those in which he participated personally.

Mr. Jeffrey is a Fellow and life member of the AIEE and a past member of the Institute's Land Transportation, Electrical Machinery and Transfer Committees. He is a registered professional engineer in Wisconsin and a Past President of the Engineers' Society of Milwaukee, an organization active in student counselling and guidance.

CONTRARY to pessimistic rumors, there are opportunities in engineering for recent engineering graduates. Its innumerable fields hold bright prospects for those who are earnestly seeking opportunity and who are willing to take experience-borne advice. But there's a catch in it; success demands hard work, patience and humility.

What, Where, How!

Finding a satisfactory job is a very serious problem for new engineering graduates. As a matter of fact, this serious concern for the future begins while these engineers-to-be are still undergraduates. Industry and engineering itself have instituted measures to preclude improper consideration and hasty decision by graduates because both have resulted in many bitter disappointments and heartaches.

Many engineering graduates place an immediate "high wage" as the most important factor in choosing their life's work. Frequently, the inducements and opportunities for a graduate engineer on a training course in industry are brushed aside for loosely defined positions that may pay only slightly more than normally earned during post graduate training. This difference is much too small to justify the choice in the majority of cases.

The problem is even more serious for married engineers. Necessity forces them to accept higher paying jobs, which often result in disillusionment and a feeling of failure and defeat. After working on a job of this sort for a year or more, many of them find that they are a part of a routine job, doing the same thing over and over again with very little chance for advancement. One solution for the engineering graduate is to obtain employment in another industry or enroll in some industrial graduate training program which ultimately opens to him opportunities for advancement in the sort of work for which he has been trained and is best suited. A decision of this sort usually implies that the young engineer is not too long out of college and is willing to start again at the beginning.

Steps in the Right Direction

Because engineers are made and not born, many industrial and professional organizations are dedicated to guiding graduate engineers towards success in their chosen field. Typical of these is the Engineer's Society of Milwaukee, an organization of 1,500 en-

gineers, which has done considerable work in enlightening undergraduates on what they might expect after graduation. The society's Professional Development Committee holds "bull sessions" during which key men in various industries meet with undergraduates to discuss various work possibilities in detail. Such organizations, plus industrial post graduate training programs are helping to relieve much of the frustration due to haphazard job evaluation and selection by engineering students. They also help eliminate some of the misconceptions about existing opportunities.

For instance, many electrical engineering students in recent years have been attracted to the "Electronic" field in preference to "Power" engineering. Consequently, a shortage of electrical engineers for future work in the design of electrical power units, distribution systems, etc., has resulted. Colleges and universities, too, have become somewhat alarmed by the increasingly large numbers of their students majoring in electronic courses.

This shift is due to the supposition that the power field is fully developed, whereas the electronic field is still in the early development stage. This concept regarding the electronic phase of engineering may be correct, but a casual analysis shows that the power field, in spite of the excellent progress it has achieved, still offers almost unlimited opportunities for designers, engineers, inventors, research workers, and scientists. This is substantiated by reference to such active problems in the field of generators and transmission as transient and steady-state stability, rates of response, stray load losses, ventilation, air and heat flow in materials and ducts, insulation materials and their application, corona, lightning and high voltage protection, relaying, metering, long distance power transmission, etc. Other problems incidental to material characteristics, such as critical vibrations, resonance, dynamic balance, etc., are also involved. So it becomes apparent that problems in the power field are not yet, by any means, studies that are dormant, but dynamically important ones today. Further opportunities present themselves in the unsolved problems in instrumentation, relaying, lightning and high voltage protection, telephone and radio interference, high voltage transmission, etc.

Training Courses Expand Ability

Industries have for many years had a system of training graduate engineers before ultimately assigning them to definite engineering tasks. Such orientation is especially important because it allows the engineer to gain experience that will help him on future assignments. At the same time, the young engineer in the formal training program is given an opportunity to do various types of work, so that he is better satisfied when he makes his final selection. Industrial training also enables the new man to learn extensively about company products and policies in a relatively short time. However, young engineers seeking advancement should study their particular field and job ceaselessly, obtain suggestions from superiors, make friends, and strive to get along with their co-workers and thus improve their knowledge, ability, skill, and poise.

Membership in the national society of their chosen engineering field provides them with opportunities to attend and participate in many and varied discussion groups and meetings. This also creates contacts with other engineers, both young and old, and should be of much value in broadening the general perspective of the newly graduated engineer.

Circumstances—Past and Present

Some 30 or 40 years ago little attention was paid to young graduates by industry. There were no aptitude or interest tests — generally there was no work in the engineering or sales offices—no lectures and no systematized graduate studies — no product

studies. After the trainees had completed approximately 18 months of service in the various parts of the shops they were invited into the office for a talk. Most of the men went into sales engineering work; only a few chose the engineering departments.

Trainees were mostly electrical and mechanical engineers. Those were the days before colleges had made such widespread difference between engineering courses and the arts and science curricula. Consequently, graduates were not as highly specialized as they are today.

There has been, and probably still is, considerable difference of opinion regarding present day curricula taught engineering students. We have heard a great deal about the students being too narrow and too highly trained in engineering details to be able to adjust themselves readily to everyday conditions—that they are unable to express themselves clearly before groups, lack personality and are not adjusted socially to present day needs. Some educators have been proposing the five year engineering course specifically to broaden the engineering students' aptitudes, traits and characteristics by further "cultural" studies relating to the social sciences, literature, English, history, business administration, etc.

On the other hand, however, engineers in industry feel that a thorough grounding and teaching of engineering fundamentals should be the first consideration in all undergraduate engineering courses; humanistic subjects should be added as time permits.

Industry's Goal—Good Engineers

No two engineers have the same interests, abilities and personalities any more than they have the same fingerprints. Because these variations exist, post graduate training courses administered by larger industries give them serious consideration.

It is pretty much of a fact that young engineers have *some* idea of the phase or *kind* of engineering they prefer. Often, this preference is based on hunches rather than on substantial facts. They *feel* that they would *like* sales or design or whatever the case might be, because they *think* that they would like that kind of work and not because they are physically, mentally and psychologically fitted for it.

It may be safe to assume that any engineering college graduate can achieve some success in almost any type of engineering work, but we know that these engineers have individual differences as to vocation preference, mental alertness, mechanical comprehension and personality. It is logical to assume then that some engineers can achieve greater success if they are assigned to jobs utilizing their greatest interests and abilities.

Tests indicate that there can be a difference of 2 to 1 in mathematical ability, mental alertness and personality of engineers in spite

of the fact that they may have been exposed to the same courses at the same school at the same time. Because of this, the larger industries evaluate each graduate's personal characteristics by aptitude and personality tests so as to guide him into the most fitting engineering endeavor. Such sound counselling and guidance into proper vocational fields provides graduates with the opportunity of finding work best suited to *their* particular traits.

Small vs. Large Concern

Engineers, who upon graduation may wish to join a small concern, face a somewhat different problem. Usually, they have no access to any directed orientation program whatever and, ordinarily, must make their way as best they can in the new environment.

In such cases, graduates may have considerably tougher going than their colleagues who enroll in graduate training offered by larger companies. The job mortality, too, is usually considerably greater than with the larger concerns.

Young engineers in small concerns may *think* they are interested in a particular field although they are not absolutely certain. Only time and experience tell. This often leads to sad consequences of both the student and employer.

On the other hand, many of the smaller industries have felt the need of orientation in job placement and some of them are trying to carry through constructive programs for their engineering personnel.

In the larger concerns, graduate engineers work at various jobs in the shops for about the first year. This is followed usually by six more months of work in the various engineering offices, sales, production and time-study sections within the company. Actual experience and advice enables students to arrive at more definite conclusions about their future. In addition, they have been attending an accredited graduate school made available to them by industry. Sometimes, it is a part of the training course. Such instruction, if properly fulfilled, carries with it the necessary scholastic credits that can be applied toward a master's degree.

It should not be implied that the best opportunities for advancement always lie with larger industries, which is not necessarily true. Many graduate engineers have made wonderful records in small industries. The above facts are brought out primarily to show the difference which may affect eventual job placement.

Certain divisions or sections of industry prefer to select a few men who have completed two years of graduate study in college. Other sections feel that it would be well if 10 percent or more of their new men had had graduate work before starting on their industrial training.

Specific problems for which graduate training is desired include transient stability stray load loss studies, calculating board construction of various types and general synchronous machine theory.

In most of these industrial training programs it is natural to suppose that *industry* expects to obtain certain definite benefits from the money it spends. As a consequence, they select graduate engineers who appear to have the necessary qualifications and who may be oriented into certain lines of work for the ultimate needs and benefit of the company.

In addition to well-grounded training in fundamentals and a degree from an accredited college, industry wants young men who are neat, alert, able to get along with other people, and eager to do their work to the best of their ability. Consequently, selection of graduates from these sources is a thoroughly scientific process. The method used at Allis-Chalmers reveals the characteristics industry is looking for in its future engineers and how these candidates are screened.

Traits Indicate Potentiality

Several studies have been made with regard to *traits* necessary for success in professional engineering. In a survey of more than 1500 successful professional engineers, Mr. D. C. R. Mann of the Carnegie Foundation has given weights to these important traits shown in Figure 1.

Character—41%
Judgment—17.5%
Efficiency—14.5%
Understanding human nature—14%
Technical knowledge—13%

It might appear that technical knowledge is not too important for success in engineering. It must be remembered, however, that the men being judged have all been graduated from accredited engineering schools, which means that they already possess certain engineering abilities.

Furthermore, character, judgment and understanding of human nature total 72.5 percent, while efficiency and technical knowledge are credited with 27.5 percent.

Through testing and counseling, the graduate engineer, as well as industry, has the opportunity of securing accurate appraisal of his abilities and interests so that he can be guided to the proper field or his chosen endeavor. Such a man will then have a much better chance of achieving greater success in his particular field. It is only natural then that industry pay particular attention to statements of various college faculties regarding the traits of graduate engineers applying for employment.

Aids to Success Vary

Charts of characteristic traits of successful professional engineers may throw some light on the manner in which this method of screening is used. The first of these, Figure 2, shows the vocational preference for design, sales, manufacturing, and research and development engineers.

In contrast, the design engineer has "medium" persuasive traits against "very high" for the sales engineer and "low" for the research and development engineer. Also of interest is the "very low" social service trait of the design engineer.

Figure 3 shows mentality traits for the same types of engineers. This group rates mostly "high" to "very high" except for the sales engineer whose visual logic and mechanical comprehension is rated "medium."

Figure 4 shows personality traits, also for the same type of engineers. Note again that the design and the research and development engineers have "high" ratings on introversion compared to "low" ratings for the sales and the manufacturing engineers. This means slightly higher or lower than medium. Extremes are undesirable.

These charts were made up by industrial

Fig. 1

TRAITS FOR SUCCESS IN PROFESSIONAL ENGINEERING

By D. C. R. Mann, *of the Carnegie Foundation*

Character	41.0%	41.0%	.....
Judgement	17.5%	17.5%	.....
Efficiency	14.5%	.....	14.5%
Understanding Human Nature	14.0%	14.0%	.....
Technical Knowledge	13.0%	.....	13.0%
Total	100 %	72.5%	27.5%

Fig. 2

CHARACTERISTIC TRAITS OF SUCCESSFUL PROFESSIONAL ENGINEERS

VOCATIONAL PREFERENCE

	Mechanical	Computational	Scientific	Persuasive	Artistic	Literary	Musical	Social Service	Clerical
Design	Very High	High	High	Med.	High	High	....	Very Low	Low
Sales	High	Med.	Med.	Very High	Low	High	....	Med.	Low
Manufacturing	High	Med.	Med.	High	Med.	Med.	....	High	Low
Research and Development	High	Med.	Very High	Low	High	High	....	Low	Very Low

Fig. 3

CHARACTERISTIC TRAITS OF SUCCESSFUL PROFESSIONAL ENGINEERS

MENTALITY

	Visual Logic	Verbal Comprehension	Intelligence	Mechanical Comprehension
Design	High	Very High	High	High
Sales	Med.	High	High	Med.
Manufacturing	High	Med.	High	High
Research and Development	High	Very High	Very High	Very High

Fig. 4

CHARACTERISTIC TRAITS OF SUCCESSFUL PROFESSIONAL ENGINEERS

PERSONALITY

	Adjustment	Self-sufficiency	Introversion	Dominance	Confidence	Sociability
Design	Med.	Med.	High	Low	High	Low
Sales	High	High	Low	High	High	High
Manufacturing	High	High	Low	High	High	Med.
Research and Development	Med.	High	High	Med.	High	Low

personnel men and show the result of testing of approximately 400 graduate engineers. Since its inception, the method's effectiveness has been verified by testing of over 200 additional cases.

Psychological tests used were:

1. Vocational preference from the Kuder Preference Record.
2. Mentality from the California Test of Mental Maturity and the Bennett Mechanical Aptitude Test Type BB.
3. Personality from the Bernreuter Personal Inventory.

These charts were prepared for vocational advisors to use in counseling engineering graduates between the ages of 20 and 25 with little or no industrial experience, but who are considering entering industry and want to choose a field of specialization that is compatible with their interests and aptitudes. It should be recognized that there are cases on record of successful engineers whose personality and preference ratings do not coincide exactly with these charts. The purpose of the charts as a vocational guide makes it advisable to show "traits usually possessed" rather than exceptions to the general pattern.

Vocational Preference

Referring to Figure 2 again, the design engineer's mechanical interest rating should be very high on the vocational preference list. This interest factor indicates people who like to work with their hands on mechanical devices; they have the desire to create better machines.

Computational interest is usually above average, for a majority of designers spend a large part of their time working with engineering formulas, slide rules and engineering tables.

Scientific interest will be above average. A designer must acquire a vast knowledge of scientic facts and laws if he is going to design machinery that will harness such facts and laws and put them to work for the benefit of society.

He usually has a medium to low *persuasive interest.* A designer has to do some selling part of the time in order to sell his design ideas to other people. This will represent a relatively small part of his time, however. Persuasive interest would be a minor factor rather than a major one in the make-up of a designer.

On the other hand, it is desirable for him to have a rather high *artistic interest* so that machines he designs will possess the symmetry and customer appeal that machines must have in order to be marketed successfully.

Likewise, his *literary interests* will be high. As a man of science, a design engineer will have to do a great deal of reading of scientific journals, research papers and publications of many kinds to keep abreast of technological changes. If he did not do a lot of reading it would be almost impossible for him to keep abreast of new scientific discoveries, new theories and new materials that might have an effect on the machines he designs.

The *social service interest* of a design engineer is usually low. Designers are men whose concentration on the problem at hand is so intense that they are not easily sidetracked into devoting their energies to sociological problems of others.

Design Requires High Mentality

Figure 3 shows the characteristic traits of the four types of professional engineers under the heading of "mentality." Here again a brief analysis of some of the traits of the design engineer will help clarify requirements.

In general, the mental ability of designers should be higher than that of the average college graduate. Scholastic records of the design type of men can be expected to substantiate this. Their grades in mathematics and engineering theory should be very high.

Visual logic of designers usually is high.

They must be able to analyze a picture, sketch or drawing and visualize what a machine would look like from studying a blueprint of that machine. The reverse would be true also in what a designer has to be able to put down on paper, lines that will indicate accurately to the experienced reader what a machine is like.

Verbal comprehension probably would be very high as the designer has to be able to grasp quickly and clearly the meaning and significance of technical writing. He also must be able to express himself clearly in the reports and technical articles he writes describing the machinery he has designed.

Personality Important

Figure 4 indicates how the different *personality* factors vary in the four different kinds of professional engineers.

The design engineer and his *adjustment* to his job and to his environment should be about average. However, he should not be entirely free from neurotic tendencies, which is one of the things measured by the adjustment factor, so as to be too well satisfied with things as they are. He must continually strive to design better equipment.

He should also be *self-sufficient*, but not to the extent that he would be indifferent or egotistical. A rating of *medium* is desirable. Extremely low factor scores in this category indicate that the individuals might not be able to back up their ideas, which would be an undesirable trait for a design engineer.

Usually, he is more *introversive* than extroversive, being primarily interested in his own problems and given to weighing a problem thoroughly rather than making a snap judgment.

Successful design engineers usually score below average on the *dominance* factor. That is, they do not try to dominate the thoughts and opinions of others, but are interested primarily in letting facts settle a case. Finally, he is likely to be a poor mixer. Consequently, his *sociability* score may be rather low. Since he so thoroughly enjoys working by himself, he is not too greatly concerned about his social standing.

How to Succeed?

The foregoing evaluation of characteristics of professional engineers should indicate to college graduates the inevitable road they must follow to success. The young engineer cannot be accorded immediate and complete responsibility for the electrical or mechanical design of a motor, generator, transformer, or some other major piece of equipment. It takes years of experience to acquire sufficient knowledge. The designer has to have actual work experience in many varied fields such as rectilinear field mapping, heat transfer, air flow and fans, sound levels, mechanical stresses, critical speeds, reactance and stability factors, etc.

Some industries select and underwrite the expenses of certain of their engineers for graduate fellowship study at a particular college or university to specialize on a definite problem. These courses are usually for one year. For example, one such study might pertain to specialized work on a network calculating board, so that when the engineer returns to the company his specialized training can be of help in working out system stability problems.

Even a design engineer should, in due time, acquire the ability to analyze costs, become acquainted with sequence operations and time-study, and the various leveling and allowance constants that are used and how they are calculated. He should become familiar with piecework rates and incentive systems, labor efficiency problems, as well as business trends and wage and material cost indexes.

It has been difficult to keep up with the rapid advances made in the engineering field in a relatively short period of time. For

instance, 15 years ago the largest 3,600-rpm alternating current generator was limited to a maximum size of about 5,000 kw. At that time, this machine was considered the largest feasible unit of its kind. Machines 20 times this rating are being supplied at the same speed today, and still larger sizes are contemplated.

Not so many years ago induction motor performance characteristics were derived from a circle diagram that was "estimated," from experience, to be so many times the calculated magnetizing current. Calculations of all the various reactances and of saturation effects of various parts of the magnetic circuit during heavy loading and short circuit were practically unknown at that time. Extrapolation of known points did not always give true results.

In the rapidly moving advances in engineering, to say nothing of atomic energy, there is much to be learned about the actions and reactions of various combinations of new materials, such as the high temperature silicone insulations, higher strength steels, new low core loss steels, calculations pertaining to stress concentrations in irregular objects of different configurations, trend towards higher speeds, higher frequencies, higher temperatures, and lighter weights. Critical speeds, natural and forced periods of vibration and an infinite number of other new fields need be explored.

Electrical and mechanical engineering alone offer chances for research, experiments and development in high voltage a-c transmission where the high voltage might possibly be furnished by rectifiers with electronic means; the 385,000 high voltage a-c transmission line now reported under way in Sweden; preliminary investigations for the use of higher voltages that have been carried out as amplified by the Tidd 500,000-volt a-c experimental transmission line in the United States. There is also the highly efficient mechanical rectifier; the gas turbine for electric propulsion of ships and railway locomotives; electronic regulators and exciters, and many, many other things too numerous to mention.

Conclusion

Industry needs the help of specially trained young men to keep up with the tremendous surge of new things continually coming into being. Industry is very much interested in the new engineering graduates, because the very life blood of the industry is deeply rooted in the soil of engineering fundamentals.

BOOK REVIEW

Professional Opportunities in National Youth Serving Organizations, *Robert H. Shaffer, Western Personnel Institute, 1949. $1.50.*

Dr. Shaffer reviews the nature of professional work in youth serving organizations and the opportunities in twelve major organizations and career areas. He outlines college preparation, specific requirements, and procedure in making application in each. The information is up-to-date and accurate, and it is evident that he has worked closely with each group in securing his data.

This booklet will be of assistance to every young man or woman considering youth service as a career. It will be especially valuable to college placement officers, to college guidance people, and to high school counselors. This is the only recent comprehensive reference in this area which has come to my attention, and it obviously serves a very useful purpose.

H. F. POTE, *Director, Division of Personnel,*
Boy Scouts of America,
2 Park Avenue,
New York 16, N. Y.

TEMPLE UNIVERSITY

a great institution
. . . the result of
a strange tale
and the firm faith of
a young clergyman

The history of Temple University dates back to a strange tale about a rich Arabian farmer, Ali Hafed, who was obsessed with the thought of becoming wealthier by discovering diamonds. This discontented man scoured the mountains and plains of Europe and Asia in vain, finally losing both his fortune and life in his hunt for more wealth. Ironically, after his death, a fabulous fortune of diamonds was found on the farm he left.

Dr. Conwell, founder of Temple University, was the young clergyman who heard this ancient legend in 1870 while on a trip from Bagdad to Nineveh on the Tigris River. It so impressed him that he made it the basis for his famous lecture "Acres of Diamonds" which earned millions of dollars. With this money, Dr. Conwell founded Temple University which was dedicated to the ideal of "making an education possible for all young men and young women who have good minds and the will to work . . ." *We will be glad to send, on request, the latest edition of Dr. Conwell's famous lecture, "Acres of Diamonds."*

TEMPLE UNIVERSITY

PHILADELPHIA

EDUCATION FOR AMERICAN CITIZENSHIP

A Presentation by the National Foundation for Education in American Citizenship

Edited by FRANKLIN L. BURDETTE

RESPONSIBLE CITIZENS IN LOCAL POLITICS

MISS ANNA LORD STRAUSS
President, League of Women Voters of the United States

GOOD local government is usually the result of many positive preventative measures rather than one spectacular "house-cleaning" campaign.

The slow but continuous building of good schools, good streets, adequate play-grounds, and a clean city hall is not something that just happens—it is the result of concern on the part of the people who live in that community. It is brought about by the process of turning that concern into action.

To many people the word "government" is a rather vague but overpowering concept. We, who are concerned with building better citizenship must find ways of showing these people that government is involved in practically every move they make every day of their lives. We must help people who think that government is only the body to whom they delegate the job of supplying services which they as individuals cannot provide for themselves. Government is necessary. It will always be with us. Making our local government the kind of government we want is in the hands of those of us who are citizens of each community.

First, we should learn what is going on. That is not nearly so difficult as it might sound. It may only mean some visits to the city council or the town meetings, trips to schools and school board meetings, a little study of tax rates and tax rules, an inquiry here and there about expenditures. Just that much interest on the part of even a few people will soon be noticed.

Second, we should get out and take part in the local elections for officers and on bond issues and other civic questions.

Third, we should get other people to go along with us in our quest for facts and in our zeal for building better government in our community.

Comments on Preparation for Placement

According to reports from reliable sources, the majority of 1949 graduates have secured employment although not in all cases in the fields of initial choice.

The placement problems which confronted—and, in many cases still confront—members of the 1949 graduating classes of the colleges and universities throughout the country, did not arise solely from prevailing social, economic and political conditions but all too frequently can be traced to the earliest stages of the process of educational preparation for adult living, when closer cooperation of student and family with those in charge of the former's courses and general progress would have removed much of the guesswork from the ultimate vocational selection.

Through the discovery of individual aptitudes and inclinations in the pre-college and freshman years and by the expert application of these findings to the selection of courses of study, educational guidance counselors are able to lay a firm foundation for career determination and successful placement.

It is unfortunate that because these guidance and placement procedures have, during the course of their development, been conducted on a more or less experimental and voluntary basis, many young men and women appear before college placement officers, professional school admissions directors and prospective employers without having had the benefit of such valuable background preparation.

Educational and placement people, the country over, wish they had the budgets, the staffs and the special facilities required in order that aptitude testing, educational and vocational guidance and early individual placement attention might be made generally compulsory. As matters stand now, these services and facilites are almost everywhere available on a voluntary basis and those who have not been able to discover their bents and abilities should certainly be among that number of the student body fortunate enough to benefit by them.

In the foregoing situation is to be found one of the most important reasons for the active interest of so many representative educators and business people in the coordination of the educational function with employer requirements and in the general improvement and advancement of the placement activities in colleges, in business and in the professions.

The colleges and universities are providing ever-improving facilities for sound educational guidance and aptitude testing coordinated with placement programs which, in increasing numbers, as budgets permit, commence the individual vocational service well in advance of the senior year—some even in the freshman year, culminating in effective senior placement.

GORDON A. HARDWICK, *President.*

NEWS COMMENTS

A Brief for Corporation Libraries

A Guide for Their Operation and Management

Edited by

Alma C. Mitchell, *Librarian*
Public Service Gas & Electric Corporation,
Newark, New Jersey

This manual will be of assistance in the organization and administration of a corporation library. Various methods described selected from practices in effect in existing libraries and found practicable. Bibliography serves as a guide to more extensive study.

Includes such pertinent topics as place of library in organization, cost, layout and equipment, acquisition of material, cataloging and classifying, circulation, vertical files, searches, abstracts, reading lists and disseminating information.

Invaluable to all organizations contemplating organizing or reorganizing a library as well as to all persons engaged in such an undertaking.

Planographed. 1949. 64 pp. Price: $1.75.

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University of Washington Holds "How to Get a Job" Seminar

Harvey L. Long, *Assistant Director*
University Placement Office
University of Washington
Seattle, Washington

The good old days of jobs-for-everybody are over for the time being. For the first time in ten years "career-hunters" need all the know-how they can get. The jobs are there, but they are going to the people who dig for them. Such is the opinion of placement office directors throughout the nation. There is definitely a "buyer's market" for college graduates as well as a buyer's market for groceries and automobiles.

The December, '48, college graduates of the University of Washington got a "whiff" of the changing trend. Graduates getting out in March, '49, had a more difficult time in landing jobs and passed the word along to their classmates. "Not to be caught with their diplomas down" student groups of the June, '49, class who were aware of the problem decided to do something toward preparing for their forthcoming job search.

Independently of each other these various student groups were conferring with student-placement advisors and the University Placement Office. Each was seeking information on job possibilities and how to go about getting a job. For instance, the student Management Club considered sponsoring a "how to get a job" seminar for students of the College of Business Administration. The Placement Office was toying with the idea of conducting a general assembly to aid students in job-hunting and had in preparation a booklet on how to apply for a job.

Ultimately, the Management Club sponsored an all-university "How to Get a Job" seminar for seniors that was most successful. The Placement Office supported the senior job seminar to its fullest extent. Excellent cooperation was obtained from the students, the University Office of Public Information, the faculty and academic departments, local radio stations, and Seattle businessmen.

For the first time at the University the graduating seniors found some of the answers on how to sell themselves to an employer. Continually driven home to the graduating class was the point that "you, the job-seeker, have something to offer the employer."

So keen was interest in the three-hour seminar by students and employers alike that two weeks later a second assembly was held. Resultant national publicity in TIME and THIS WEEK brought scores of requests from schools and businesses throughout the nation for additional information on the mechanics of the seminar.

Salient features of the project will be of interest to readers of School and College Placement.

The assembly was held in April, 1949, for four reasons. First, the time lapsing between April and June gave graduating seniors time to plan, consolidate and actually put to work before graduation the ideas gained from the assembly. Second, the graduating class for 1949 was larger than any previous class and personal instruction in job-hunting techniques for each was limited. Third, business was tightening up and applicants needed to know how to convince the employer as to how he, the applicant, could benefit the businessman. Lastly, good cooperation was expected from the press due to the natural play the press usually gives each spring to the graduating class of high schools and colleges.

In preparation for the assembly two goals were continually kept in mind. These were:

(1) To illustrate to the prospective job-hunting graduating senior, methods and techniques on how to find and get a job, and,

(2) To present in condensed form points that employers in the Seattle area were evaluating and looking for in college graduates.

To obtain much of this information the student Management Club personally interviewed Seattle businessmen to get first hand information. Before these preliminary interviews were over the students

were well aware that the present is not a time when a man can step out of his cap and gown and into the job of his dreams without any effort on his part. Applicants realized that "What can you do for me?" is the foremost question in the mind of an employer as he interviews the college graduate for employment in his business concern.

Students and faculty advisors decided early that the best results for an assembly could only be obtained by including both students and employers on the program. Down to earth, tested, usable information was the only material desired.

To show the thoroughness of the program, here is a list of typical subjects covered during the seminar:

Importance of proper methods of job searching—presented by a student-advisor panel
A philosophy of job hunting—a faculty advisor
Dress hints and styles illustrating the importance of personal appearance—a businessman
The employer viewpoint toward applicants—a businessman
Job-hunting tips—a students'-businessmen panel
Key points of job hunting success—an original skit summarizing the key points of "how to get a job"

Students who participated in the forming and planning of the job seminar realized the greatest immediate benefit. Small groups of students were continually meeting and exchanging information and ideas. Others compiled statistics from surveys, interviewed employers, and studied books on job hunting. The bull sessions associated with any project of this type probably contributed most in adding to job-hunting knowledge.

Although actual presentation of the program was of only three hours duration, the total overall project took three months to develop. Work on the job seminar was volunteered and went into the composition of a booklet entitled "Selling Yourself" and making arrangements for the seminar itself. About 75 Management Club members of the University of Washington volunteered a minimum of 40 hours of work each, with about four or five students exceeding 200 hours of work, and one student approximately 400 hours.

Publication of the 50-page booklet "Selling Yourself" was designed to be a complete treatise itself on job hunting and was distributed free to seniors. Others interested in the booklet were charged fifty cents which helped cover printing costs. After the first edition was depleted a second run was made for which $1.00 per copy was charged. This covered costs of the second printing and postage for mail requests.

The booklet consisted of condensations or excerpts of books on employment along with a great deal of valuable information and advice gathered from Seattle businessmen. "Selling Yourself" emphasized throughout the positive approach in getting a job, i.e., "Know yourself, be yourself, sell yourself." Also included in the booklet was a list of Seattle industries, a section on how to write an application letter, a reiteration of good job-hunting techniques, what employers were evaluating and looking for in college graduates, and a comprehensive job-hunting check list.

A most important contributing factor to the success of the job seminar was the job-hunting philosophy Mr. Norman D. Hillis extols to every graduating senior and student who inquires as to his views on how to get a job.

States Hillis, who has been director of placement activities for 13 years at the University, "I personally believe that the training of an applicant to job hunt is much more important in the long run than simply to hand the senior a job through the facilities of an employment office. It is usually a risky proposition for a senior or any other person in the job market to depend always upon a placement office to secure his job for him."

Despite this philosophy and in view of the tightening labor market the Placement Office director feels the University of Washington has been quite fortunate this year in their placement program. Miss Dorothy Clark, in charge of senior placement, stated that out of 500 seniors who filed for work in the office during the past year over 200 of them have been directly placed through the efforts of the Placement Office. A great many more of this 500 were interviewed by employers, but at present figures are not available as to their present status. Certainly the job seminar added measurably to the "know how" of the student in aiding him to find the right job upon graduation.

In the spring of 1950 a similar project will be undertaken, though at that time the junior students will also be invited to participate and attend. Much can be gained if the junior student becomes job-conscious early. The graduating senior is definitely at a disadvantage if he waits until graduation before seriously thinking about his life work.

BOOK REVIEWS

Counseling Technics in College and Secondary Schools, *Ruth Strang. Harper & Brothers, 1949. $4.00.*

This revised edition on Counseling Technics is an excellent guide and reference for any counselor interested in using any of the various technics discussed. The author describes these technics quite clearly, pointing out the conditions under which they can best be used, how they can best be applied and their limitations. The idea is brought out that no single technic is all-sufficient in itself, but that the best results can be obtained by combining and integrating the information obtained by a number of them. Throughout the book the author stresses the point that the counselee must be maintained as the center of the work, regardless of the technics employed, and emphasizes the importance of personal understanding of the counselee on the part of the counselor.

Chapter I deals with orientation to counseling technic. The author presents, in a concise yet fairly complete manner, the over-all forces which enter into the counseling picture; forces which act either as a negative or a positive influence upon the counselee; and the inter-play and inter-action of these forces concurrently upon the individual. Some of the topics discussed herein are: The Past, Present and Future —their influence on the counselee, The Counselee, The Counselor, The Counseling Process, The Aims of Counseling, Evaluation of Counseling and Preparation of Counselors. In discussing the Counselor's use of technics, the author brings out one all important factor, one that counselors are apt to lose sight of, and that is, that no matter what technics are used or to what extent they are employed, they (the technics) must "never interfere with the essential warm human relationship that should exist between counselor and counselee."

The author then devotes a chapter to each of eight different technics. These are: Observation, Rating Scale Autobiography and Other Personnel Documents, The Interview, Projective Technics, Cumulative Personnel Records, The Case Study, and Therapeutic Methods. Under each of these is discussed the various types that may be employed with a generous number of examples and case studies included. Each chapter includes an appraisal of the limitations, values, reliability and validity, suggestions on the use of, and general comments on the technics under consideration.

There is an excellent Bibliography containing 47 pages of references, arranged according to chapters.

We recommend it for use by all who must deal with the problems of the individual whether the primary work is teaching in elementary school, high school or college, vocational guidance, job placement, or general counseling. It is also an excellent source book of information for college classes in counseling.

D. G. EDGAR, *Placement Director,*
College of Arts and Sciences,
The Ohio State University,
Columbus, Ohio.

106 Success Opportunities, *Arco Editorial Board, Arco Publishing Company, New York, N. Y., 1949. $2.50.*

Perhaps the most important single cause of confusion and poor judgment in the choice of a career is lack of knowledge about vocational opportunities. Psychological tests and guidance interviews are useful only to the extent that the trends which they uncover can be interpreted in terms of specific career recommendations; one of the major functions of vocational counseling, therefore, is to provide the subject with adequate information about potential careers.

To the extent that "106 Success Opportunities" offers such information, it is a valuable aid for professional vocational guidance workers and job seekers alike. The "opportunities" are classified according to seven major categories: agricultural jobs, personal services, mechanical, commercial fields, scientific jobs, esthetic work, and professions. Such divisions are both arbitrary and over-simplified, but make available much useful information to the more naive job seeker. As a ready source of usable career information, the book may be employed to advantage by professional guidance workers as a guide for people seeking ideas and knowledge about potential vocations. The so-called layman, or non-professional, who needs job information should find the analyses in this book most useful; however, I doubt that the professional guidance specialists will find much here that is not known already or that is not covered more completely in other sources.

The salient weakness of the work is its obvious limitation to a relatively narrow range of vocational possibilities. "Used carefully," as the publisher suggests, this book could be a valuable source of much-needed information, but the user should not permit himself to be misled or discouraged if he finds that the jobs treated in this work do not appeal to him. Such persons should be constantly alert to the many other potential occupations that have not been analyzed.

FANNIE Y. MITCHELL, *Director,*
Appointments Office,
Duke University,
Durham, N. C.

CORPORATIONS PLANNING TO RECRUIT COLLEGE SENIORS IN 1949-50

The Association again presents its annual listing of companies planning to employ graduating seniors. There are fewer names included this year since not so many are recruiting. This list is incomplete with respect to those companies we were unable to contact and those who failed to reply.

Unless otherwise specified the corporations listed below (1) recruit only men (2) recruit on a national basis (3) conduct campus interviews.

Allied Chemical and Dye Corp. General Chemical Division, 40 Rector St., New York, N. Y. E. W. Carpenter. Training programs — production, sales.

*Allied Stores Corp., 1440 Broadway, New York, N. Y. Paul H. Robinson. Training programs—general dept. store, merchandising, operating, control, advertising, personnel.

American Gas & Electric Co., 30 Church St., New York 8, N. Y. F. G. Lippert. Recruit for subsidiaries.
Appalachian Electric Power Co.—Va., W. Va.
Indiana Power Co.—Ind.
Ohio Power Co.—Ohio.
Training programs—electrical, mechanical engineering.

American Home Foods, Inc., 22 E. 40th St., New York, N. Y. Robert E. Stevens. Training programs—sales.

American Machine & Foundry Co., 5502 2nd Ave., Brooklyn, N. Y. F. R. Valentine. Training programs—engineering.

American Optical Co., Southbridge 2, Mass. Louise H. Hicks. East, New England. Training programs—production, sales, accounting.

American Smelting & Refining Co., 612 Pacific Nat'l Life Bldg., Salt Lake City, Utah. R. C. Beckstead.

American Steel & Wire Co., Rockefeller Bldg., Cleveland 13, Ohio. L. C. Hornickel. Mid-west, Central and East. Training programs—accounting, operating, sales.

**American Sugar Refining Co., 120 Wall St., New York 5, N. Y. R. Randall Irwin. East, Gulf States, Mid-west. No campus interviews.

*American Viscose Corp., 1617 Pennsylvania Blvd., Philadelphia 3, Pa. C. Stuart Brown. East of Miss. Training programs—sales, accounting, production.

Andersen, Arthur & Co., accountants and auditors. Offices in principal cities.

*Archer-Daniels-Midland Co., 600 Roanoke Bldg., Minneapolis 2, Minn. H. W. Lynch.

Armstrong Cork Co., Lancaster, Pa. J. E. Smith. Training programs in all depts.

*Recruit women.
**Recruiting plans not definite.

Ashland Oil & Refining Co., 1409 Winchester Ave., Ashland, Ky. Alexander S. Chamberlain. Mid-west. Training programs—refining, transportation, marketing.

Automatic Electric Co., 1033 W. Van Buren, Chicago 7, Ill. V. S. Balch. Mid-west. Training programs—engineering, accounting.

Ayer, N. W. & Son, West Washington Square, Philadelphia 6, Pa. Theodore Whittelsey, Jr. Will visit only a few eastern universities.

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio. R. E. Sprenkle. Training programs—instrumentation and control.

**Bakelite Corp., 30 E. 42nd St., New York 17, N. Y. C. M. Barlow. Training programs—production, sales engineering.

Baldwin Locomotive Works, Philadelphia 42, Pa. R. M. Harrison. Training programs—electrical, mechanical, civil engineering.

Bell Aircraft Corp., P. O. Box 1, Buffalo 5, N. Y. Robert C. Marks.

*Bell Telephone System.
The several Bell Telephone Companies seek college graduates primarily from nearby institutions. Each of these companies, moreover, coordinates all System relations with the institutions in its own territory, including those on behalf of the System's long distance unit, the American Telephone and Telegraph Company's Long Lines Department, its manufacturing and supply unit, the Western Electric Company, and its development and research unit, Bell Telephone Laboratories. All inquiries should be addressed, therefore, to the Bell Telephone Company serving the territory in which any particular institution is located. The names and addresses of the college employment representatives of these companies follow:
Bell Telephone Co. of Pennsylvania, 1835 Arch St., Philadelphia 3, Pa. E. H. Weigle.
Chesapeake & Potomac Telephone Co., 723 13th St., N. W., Washington 5, D. C. W. J. Carto.
Cincinnati & Suburban Bell Telephone Co., 225 E. 4th St., Cincinnati 2, Ohio. E. D. Coons.
Illinois Bell Telephone Co., 212 W. Washington St., Chicago 6, Ill. W. C. Hall.
Indiana Bell Telephone Co., 240 N. Meridian St., Indianapolis 9, Ind. H. A. York.

Michigan Bell Telephone Co., 1365 Cass Ave., Detroit 25, Mich. H. H. Schroeder.
Mountain States Telephone & Telegraph Co., 931 14th St., Denver 1, Colo. H. T. Engstrom.
New England Telephone & Telegraph Co., 185 Franklin St., Boston 7, Mass. W. E. Keith.
New Jersey Bell Telephone Co., 540 Broad St., Newark 2, N. J. P. M. Russell.
New York Telephone Co., 140 West St., New York 7, N. Y. George E. Kahler.
Northwestern Bell Telephone Co., 118 South 19th St., Omaha 2, Neb. H. McAlpin.
Ohio Bell Telephone Co., 750 Huron Rd., Cleveland 15, Ohio. H. Y. Elliott.
Pacific Telephone & Telegraph Co., 140 New Montgomery St., San Francisco 5, Calif. J. C. Gray.
Southern Bell Telephone & Telegraph Co., Hurt Bldg., Atlanta 1, Ga. M. H. Markwood.
Southern New England Telephone Co., 227 Church St., New Haven 6, Conn. H. F. Richter.
Southwestern Bell Telephone Co., 1010 Pine St., St. Louis 1, Mo. R. E. White.
Wisconsin Telephone Co., 722 N. Broadway, Milwaukee 2, Wis. E. J. Moen.

Boeing Airplane Co., Seattle, Wash. John C. Sanders. West, Mid-west, East. Training programs — engineering. Recruit aeronautical, mechanical, electrical, civil engineers only.

*Botany Mills, Inc., Passaic, N. J. Monroe B. Scharff. N. Y., N. J., New England.

Braun, C. F. & Co., Alhambra, Calif. Jack V. Coombes. Calif., selected schools in East and Mid-west.

Budd Co. Charles Peterson, 12041 Charlevoix Ave., Detroit, Mich.
John Trainor, Railway Division, Bustleton, Pa.
L. F. Randall, Automobile Body Division, Hunting Park Plant, Philadelphia 31, Pa. Training programs—at all plants.

Burroughs Adding Machine Co., 6071 2nd Ave., Detroit 32, Mich. Sales Personnel. Training programs—sales.

Calvert Distilling Co., M. G. Northcutt, Relay 27, Md. G. Meade; E. G. Duenweg, Seventh St. Rd., Louisville, Ky. D. P. McDowell, Lawrenceburg, Ind. East of Miss.

Chance Vought Aircraft, Box 5907, Dallas, Tex. R. J. Erler, Jr. Training programs—engineering.

**Combustion Engineering-Superheater Co., 425 151st St., East Chicago, Ind. John L. Menson. Univ. of Ill., Mich., Wis., Minn., Northwestern, Purdue, Ill. Institute of Tech. Training programs—engineering and manufacturing.

Connecticut General Life Ins. Co., 55 Elm St., Hartford, Conn. George C. Capen. East of Miss., North of Ky., W. Va., S. C., Calif., Tex.

Consumers Power Co., 212 W. Michigan Ave., Jackson, Mich. B. D. Hilty. Primarily "Big Ten."

Cutter Laboratories, 4th and Parker Sts., Berkeley, Calif. Grant B. Powell. West Coast, Rocky Mt. No campus interviews.

**De Laval Steam Turbine Co., Trenton, N. J. R. C. Ruehl. Training programs—sales, engineering, manufacturing.

Detroit Edison Co., 2000 2nd St., Detroit 26, Mich. A. R. Hellwarth. 400 mile area around Detroit. Training programs—electrical, mechanical engineering.

Drackett Co., 5020 Spring Grove Ave., Cincinnati 32, Ohio. John W. Dalzell. Training programs—chemical engineering, business administration. No campus interviews.

Douglas Aircraft Co., Inc., 3000 Ocean Park Blvd., Santa Monica, Calif. C. C. La Vene.

*du Pont, E. I. de Nemours & Co., Inc., 6009 Du Pont Bldg., Wilmington 99, Del. J. A. Wetlaufer.

*Dun & Bradstreet, 290 Broadway, New York 8, N. Y. H. F. Graper. Training programs—commercial credit reporting.

*Employers Mutuals, Wausau, Wis. T. A. Duckworth. Training programs—sales, claim, underwriting.

Equitable Life Assurance Society of U. S., 200 Frick Bldg., Pittsburgh 19, Pa. William R. Buhl. Penna. Training programs—selling.

Essex Rubber Co., Trenton, N. J. Owen L. Evans. East. Training programs—chemical, mechanical engineering.

Ethyl Corp., 1600 W. Eight Mile Rd., Ferndale, Detroit 20, Mich. O. Edward Kurt. Training programs—automotive engine, fuels research.

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill. L. G. Gaiennie. Training programs—sales, engineering.

Federal Telecommunication Laboratories, Inc., 500 Washington Ave., Nutley, N. J. William R. Boyd. Training programs—development, research. No campus interviews.

**Firestone Tire & Rubber Co.
Central Division, J. R. Knisely, Akron, Ohio.
Coast Division, Brownie Carslake, Los Angeles, Calif.
Eastern Division, H. V. Winter, Akron, Ohio.
Southern Division, H. G. Cantrell, Memphis, Tenn.
Western Division, L. R. Arnett, Des Moines, Iowa.

*Recruit women.
**Recruiting plans not definite.

Technical Assignment, C. W. Gamerdinger, Akron, Ohio.
Training programs—sales, accounting, credit, technical work.

Ford Motor Co., Dearborn, Mich. Glenn H. Bingman.

*Gates Rubber Co., 999 S. Broadway, Denver, Colo. Harley Rhodes. Mid-west, Rocky Mt.

General Electric Co., Bldg. 23-207, Schenectady, N. Y. D. S. Roberts. Training programs—electrical, mechanical, industrial, general, chemical, metallurgical engineering, physics, accounting, business administration.

General Fireproofing Co., Youngstown, Ohio. P. E. Williams, Personnel Consultant, Spitzer Bldg., Toledo 4, Ohio.

General Motors Corp., 13-217 General Motors Bldg., Detroit 2, Mich. Kenneth A. Meade. Training programs—engineering, business administration, accounting.

Giddings & Lewis Machine Tool Co., 142 Doty St., Fond du Lac, Wis. F. C. Freund. Mid-west. Training programs—production, engineering.

Goodyear Tire Co., Akron, Ohio. David Thomas. Training programs—engineering production.

Grant, W. T., 1441 Broadway, New York, N. Y. A. H. Barron. Training programs—store management, retailing.

Great Northern Paper Co., Millinocket, Me. W. F. Daniell. N. Y., New England. Training programs—paper mill prod., research.

Gruman Aircraft Engineering Corp., Bethpage, N. Y. A. T. Wilder. N. Y., N. J., Mass., Conn. Training programs—engineering.

**Guaranty Trust Co. of New York, 140 Broadway, New York 15, N. Y. Leo H. Bombard.

Hamilton Standard Propellers, East Hartford, Conn. Edwin D. Eaton. New England, N. Y., Penna., Ind., Ill., Mich. Training programs—engineering.

Hazeltine Electronics Corp., 58-25 Little Neck Pkwy., Little Neck, L. I., N. Y. Warren E. Foster. Northeast, Mid-west.

Hercules Powder Co., Delaware Trust Bldg., Wilmington, Del. George F. Cooper. North, South, Mid-west.

Home Life Ins. Co., 256 Broadway, New York 8, N. Y. Tom J. Gorham. Northeast. Training programs—home office, sales.

Hood Rubber Co., 36 Nichols Ave., Watertown 72, Mass. L. C. McKenney. Training programs—production, chemical engineering.

*Humble Oil & Refining Co., Box 2180, Houston, Tex. R. N. Dyer. Recruiting more concentrated in South, Southwest. Training programs—all depts.

Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y. E. E. Breault. Training programs—almost all divisions.

International Business Machines Corp., 590 Madison Ave., New York 22, N. Y. Dwayne Orton. Training programs—sales, engineering, general business. Applicants should apply to manager of nearest IBM branch office. Branch managers will conduct interviews.

**Johnson Service Co.
Central district, O. G. Ward, 1355 Washington Blvd., Chicago 7, Ill.
Eastern district, M. F. Rather, 28 E. 29th St., New York 16, N. Y.
Western district, P. D. Gayman, 507 E. Michigan St., Milwaukee 2, Wis.

Kaiser Services, Kaiser Bldg., Oakland, Calif. Frank H. Wickhorst. Training programs—manufacturing, sales, accounting, executive.

Kendall Refining Co., Bradford, Ill. Harold A. Krantz. Middle Atlantic. Training programs—research, development.

*Kimberly-Clark Corp., Neenah, Wis. Harry D. Gates. Mid-west, South, East. Training programs—sales, personnel, manufacturing, accounting, industrial engineering, materials handling.

**Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. R. W. Johnson. New England, N. Y., Penna., Del.

**Lever Brothers Co., 50 Memorial Drive, Cambridge, Mass. Northeast, Middle Atlantic, Mid-west. Training programs—chemical research, engineering, administrative.

*Lilly, Eli & Co., 740 S. Alabama St., Indianapolis 6, Ind. J. C. Schade. Training programs—production depts.

Lockheed Aircraft Corp., Burbank, Calif. Karl R. Kunze. Training programs—all depts.

Lybrand, Ross Bros. & Montgomery, 90 Broad St., New York 4, N. Y. Raymond G. Ankers. East of Miss. Training programs—accounting.

Lyon Metal Products, Inc., Aurora, Ill. Neal Ormond. Mid-west. Applications invited from other areas. Training programs—production.

Magnolia Petroleum Co., Box 900, Dallas, Tex. L. B. Redmond. Southwest.

McCray Refrigerator Co., Kendallville, Ind. W. V. Herr. Mid-west.

**Metropolitan Edison Co., 412 Washington St., Reading, Pa. Leroy Klopp. Penna.

Minnesota Mining & Manufacturing Co., 900 Fauquier Ave., St. Paul 6, Minn. Wendel W. Burton. Training programs—sales, technical.

*Recruit women.
**Recruiting plans not definite.

**Mohawk Carpet Mills, Amsterdam, N. Y. S. Schuyler. N. Y., New England.

Monsanto Chemical Co., St. Louis 4, Mo. Robert F. McCoole. Training programs—sales.

Mutual Benefit Life Ins. Co., P. O. Box 359, Newark 1, N. J. Paul Rotter, Harry H. Allen. East. Training programs—actuarial, accounting, investment analysis.

National Gypsum Co., 325 Delaware Ave., Buffalo, N. Y. F. Maxon Clarke. East of Miss. Training programs—mechanical, chemical engineering, sales.

National Supply Co., Box 416, Pittsburgh 30, Pa. B. E. Warden. Training programs—production, engineering, sales, accounting, credit.

National Tube Co., Frick Bldg., Pittsburgh 30, Pa. Doris E. Chatto. Penna., Ohio. Training programs—accounting, operating, sales.

New York Life Insurance Co., Room 1207, 51 Madison Ave., New York 10, N. Y. Richard P. Koehn.

North American Aviation, Inc., Los Angeles Airport 45, Calif. Training programs—engineering.

Northwestern Mutual Life Ins. Co., 720 E. Wisconsin Ave., Milwaukee, Wis. W. H. Griffin. Training programs—sales.

Ortho Pharmaceutical Corp., Raritan, N. J. Paul E. Williams, Personnel Consultant, Spitzer Bldg., Toledo 4, Ohio.

Parke, Davis & Co., Detroit 32, Mich. W. F. Holcomb. East, Mid-west.

Pennsylvania Power & Light Co., 901 Hamilton St., Allentown, Pa. P. W. Siekman. Eastern and Central Penna. Training programs—all depts.

Perfect Circle Corp., Hagerstown, Md. O. M. Aders. Training programs—engineering, management.

Petroleum Advisers, Inc., 70 Pine St., New York 5, N. Y. D. P. Sturges. Training programs—general.

Philadelphia Electric Co., 900 Sansom St., Philadelphia 5, Pa. G. L. Harvey, Jr. Eastern Penna., N. Y., Conn., Mass. Training programs—engineering, operating.

Philadelphia Gas Works Co., 1800 N. 9th St., Philadelphia 22, Pa. H. B. Crudden. Penna. and bordering states. Training programs—engineering.

Philco Corp., C and Tioga Sts., Philadelphia, Pa. William G. Ulmer, Jr.

Phillips Petroleum Co., Bartlesville, Okla. D. R. McKeithan. Southwest, Central and nearest Southeastern and Rocky Mt. colleges. Training programs—production, gasoline, geological depts. May resume campus visits and recruiting in spring, '50.

Potash Co. of America, P. O. Box 31, Carlsbad, N. M. Arthur B. Thomas. Southwest.

Pratt & Whitney Aircraft, 400 Main St., East Hartford, Conn. F. W. Powers. Training programs—engineering.

*Procter & Gamble Co., Gwynne Bldg., Cincinnati 2, Ohio.
Sales candidates, Max Freeman, Gwynne Bldg., Cincinnati 2, Ohio.
Technical candidates, C. B. Hedrick, MA&R Bldg., Ivorydale, Cincinnati 17, Ohio.
Other candidates, W. L. Franz, Gwynne Bldg., Cincinnati 2, Ohio.

*Prudential Insurance Co. of America, Newark, N. J. Earl L. Weaver. East. Training programs—general home office, actuarial.

Public Service Co. of Colo., 900 15th St., Denver, Colo. R. H. Joyce. Colo. and adjoining states.

Ralston Purina, 835 58th St., St. Louis, Mo. A. W. Moise. Training programs—sales, production.

Raybestos Division, P. O. Box 1021, Bridgeport 2, Conn. William S. Simpson. New England. Training programs—sales, production, laboratory, engineering, planning.

**Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland 10, Ohio. Training programs—sales engineering.

Reynolds Tobacco Co., R. J., Winston-Salem, N. C. Charles B. Wade, Jr. South, East, North. Training programs—all depts.

SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa. William H. Buch. North Central, Northeast.

Saco-Lowell Shops, Biddleford, Me. Charles F. Taylor, Jr. New England. Training programs—general.

Scott Paper Co., Chester, Pa. A. F. Armstrong, manufacturing, accounting, engineering, technical employment; C. L. Lyon, staff supervisor of employe relations; G. D. Preston, sales, distribution employment. Training programs—all depts.

Scovill Mfg. Co., 99 Mill St., Waterbury 91, Conn. C. A. Du Bois. Northeast, Mid-west. Training programs—production, sales, engineering, research, accounting.

Sears, Roebuck & Co.
Parent Organization, W. W. Tudor, 925 S. Homan Ave., Chicago 7, Ill.
Eastern Territory, J. C. Niece, 1640 Roosevelt Blvd., Philadelphia 32, Pa.
Mid-western Territory, A. J. Bjorklund, 8 E. Congress St., Chicago 5, Ill.

*Recruit women.
**Recruiting plans not definite.

Pacific Coast Territory, C. E. Brabyn, 2650 Olympic Blvd., East Los Angeles 54, Calif.
Southeastern Territory, E. L. Diener, 675 Ponce de Leon Ave., Atlanta, Ga.
Southwestern Territory, J. E. White, 1409 S. Lamar St., Dallas, Tex.

Servel, Inc., Evansville, Ind. G. Schade, M. F. Stigers. General cadet training program.

Shell Oil Co., Inc., 50 W. 50th St., New York 20, N. Y. J. R. Janssen. Training programs—various technical and non-technical programs.

Smith, Kline & French Laboratories, 1530 Spring Garden St., Philadelphia 1, Pa. George O. Huey. Middle Atlantic, New England. Training programs—administrative, medical promotion, research, manufacturing.

Sonneborn, L. Sons, 300 4th Ave., New York, N. Y. Mrs. K. Furman. No campus interviews.

Sperry Gyroscope Co., Inc., Great Neck, N. Y. Frank S. Pac.

Standard Brands, Inc., 595 Madison Ave., New York 22, N. Y. East, South, Mid-west. Training programs—sales, accounting, credit, research.

Standard Oil Co., 1756 Midland Bldg., Cleveland 15, Ohio. Elwood G. Glass, Jr. Northeast. Training programs—manufacturing (refining), production, transportation.

Standard Oil Development Co. & East Coast Refineries of Esso Standard Oil Co., P. O. Box 243, Elizabeth, N. J. Thomas Cross, Jr. Training programs — chemistry, chemical, mechanical, civil, electrical engineering.

**Standard-Vacuum Oil Co., Room 800, 26 Broadway, New York, N. Y. J. F. Carlz. Training programs—sales, production distribution, general operations, accounting.

Strawbridge & Clothier, 8th and Market Sts., Philadelphia 5, Pa. Middle Atlantic, New England. General training program for junior executives.

Studebaker Corp., South Bend, Indiana. W. A. Williams. Mid-west, East. Training programs—sales, parts and accessories, engineering, accounting.

Sun Oil Co., Marcus Hook, Pa. J. Harold Perrine. Northeast. On the job training—technical students only.

Swift & Co., Union Stock Yards, Chicago 9, Ill. E. H. Wagner.

Thompson Products, Inc., 2196 Clarkwood Rd., Cleveland 3, Ohio. V. A. Buescher. Mid-west, East.

Travelers Ins. Co., 700 Main St., Hartford, Conn. J. T. Wilcox. Middle Atlantic. Training programs—underwriting, accounting, actuarial.

Uarco, Inc., 5000 South California, Chicago 32, Ill. R. C. Schulke. Mid-west. Training programs—general factory management.

**Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y. Training programs—production, sales, engineering.

Union Oil Co., 617 W. 7th St., Los Angeles, Calif. J. P. Rockfellow. West Coast. Training programs—oil field production, refining.

U. S. Rubber Co., Tire Division, 6600 E. Jefferson Ave., Detroit 32, Mich. G. R. Cuthbertson.
American Bridge Co., Frick Bldg., Pittsburgh 19, Pa. A. J. Paddock.

U. S. Steel Corp. of Delaware, 436 7th Ave., Pittsburgh, Pa. H. J. Phillips.
American Steel & Wire Co., Rockefeller Bldg., Cleveland 13, Ohio. D. J. Burtt.
Carnegie-Illinois Steel Corp., Carnegie Bldg., Pittsburgh 30, Pa. E. E. Moore.
Columbia Steel Co., Russ Bldg., San Francisco 6, Calif. C. T. Spivey.
Geneva Steel Co., P. O. Box 269, Salt Lake City 8, Utah. R. G. Glass.
National Tube Co., Frick Bldg., Pittsburgh 19, Pa. W. S. Burchinal.
Oil Well Supply Co., Oil City, Pa. L. H. Keim.
Oliver Iron Mining Co., Wolvin Bldg., Duluth 2, Minn. R. O. Hawkanson.
Tennessee Coal, Iron & Railroad Co., Brown-Marx Bldg., Birmingham 2, Ala. J. H. Williamson.
Timken Roller Bearing Co., Canton, Ohio. Paul E. Williams, Personnel Consultant, Spitzer Bldg., Toledo 4, Ohio.
Universal Atlas Cement Co., 135 E. 42nd St., New York, N. Y. G. C. Huth.
Companies recruit in general area of operations. Training programs—manufacturing, engineering. Metallurgical accounting, sales. All programs not available in all companies each year.

Upjohn Co., 301 Henrietta St., Kalamazoo 99, Mich. Homer M. Elwell. Mid-west. Training programs—office, finance.

Vick Chemical Co., Box V, Greensboro, N. C. E. G. Michaels. East, South. Training programs—sales, personnel.

West Virginia Pulp & Paper Co., 230 Park Ave., New York 17, N. Y. Russell E. Burke.

Westinghouse Electric Corp., East Pittsburgh, Pa. George D. Lobingier. Training programs—engineering, manufacturing, sales, accounting.

Westvaco Chemical Division, Food Machinery & Chemical Corp., 405 Lexington Ave., New York 17, N. Y. J. S. Thomas.

Worthington Pump & Machinery Corp., Harrison, N. J. W. C. Vickery. East, Central. Training programs—engineering.

Youngstown Sheet & Tube Co., Youngstown, Ohio. Paul E. Williams, Personnel Consultant, Spitzer Bldg., Toledo 4, Ohio.

Zurich General Accident & Liability Ins. Co., Ltd., 135 S. La Salle St., Chicago 3, Ill. East, Mid-west. Training programs—underwriting.

*Recruit women.
**Recruiting plans not definite.

ASSOCIATION NEWS

The annual meeting of the Executive Board of the Association of School and College Placement was held on Thursday, June 30, 1949, at 12:00 noon at the Union League, 140 South Broad Street, Philadelphia, Pennsylvania.

The re-election of the present officers, to serve for the coming year, was unanimously ordered as follows: President, Gordon A. Hardwick; Vice-President, Theodore A. Distler; Vice-President, Robert N. Hilkert; Secretary-Editor, Ida Landenberger, and Treasurer, William R. Gordon.

In accordance with the Executive Board's rotation plan, the following were re-elected to serve a term of three years: Leonard C. Ashton, A. M. Boyd, Rufus H. Fitzgerald, E. Craig Sweeten and Herbert Wottrich.

The following current heads of informal conference groups of Association members and of formally established regional associations of college placement officers were elected to the Executive Board for the terms set forth before their respective names: for a three-year term, Gordon G. Sikes, Princeton University; for one-year terms, Frank S. Endicott, Northwestern University, and Wendell R. Horsley, Texas A. & M. These gentlemen fill the unexpired terms of Messrs. Hardwick, Distler and Hilkert, who, being elected as officers, will have ex-officio status and will, according to the by-laws, be members of the Administrative Committee.

Members of the Administrative Committee were all re-elected for a one-year term, those being Leonard C. Ashton, Clarence E. Clewell, Theodore A. Distler, Gordon A. Hardwick, Robert N. Hilkert and Robert C. Taber.

On motion duly made and seconded, the Board unanimously confirmed the appointment of the following representatives of regional groups to the Editorial Board for the ensuing year: R. Fred Chambers, University of Colorado; Charles H. Ebert, Jr., University of Pittsburgh; Anna M. Hanson, Simmons College; Armand C. Stalnaker, Ohio State University, and Robert C. Taber, Philadelphia Public Schools.

The Executive Board ordered a more realistic attitude toward the whole matter of higher costs of operation. Accordingly, the Institutional membership was increased to $7.00 per year and the Regular membership to $4.00 per year, effective July 1, 1949. The new rates represent an increase of only enough to offset mounting costs of publishing and distributing SCHOOL AND COLLEGE PLACEMENT.

Presenting Newly Elected Board Members

Executive Board Members

FRANK S. ENDICOTT, Director, Bureau of Placement and Associate Professor, School of Education, Northwestern University. Graduated from Cornell College, Iowa. M.A., Ph.D., Northwestern. Has taught and directed guidance at secondary school and junior college level. Author of *Vocational Planning, How to Find and Succeed in Your Postwar Job, One Hundred Guidance Lessons.*

WENDELL R. HORSLEY, Director, Placement, Texas A. & M. Graduated from Colorado A. & M. Served with U. S. Forest Service, private lumber companies and as regional forester (Southwest) with U. S. National Parks Service. Taught forestry and recreation area development at Texas A. & M.

GORDON G. SIKES, Director of Senior Placement, Princeton University. Graduated from Princeton. Served the American University Union in Paris. Appointed Assistant Secretary of Princeton University, later became head rowing coach, three times accompanied the University's crews to Henley. Served as Assistant to Dean of the College and adviser to Princeton Class Memorial Insurance Committees. During World War II named adviser to the Marines stationed on the campus. Long active in Princeton YMCA program. Director of Princeton Tower Club. Officer of Princeton University Rowing Association, member of Nassau Club of Princeton.

Editorial Board Members

R. FRED CHAMBERS, Director, University Placement Bureau, University of Colorado. Graduated from Franklin College, Indiana. M.A., University of Colorado. Work completed for Ed.D. Has taught in schools and colleges throughout United States, India and the Philippines. Served as President, Central Philippine College. Member of Rotary Club and Boulder Chamber of Commerce.

CHARLES H. EBERT, JR., Director, Placement Bureau, University of Pittsburgh. Graduated from University of Pittsburgh. Employed in credit and sales work. Served in U.S.N. World War II. Charter member and Secretary-Treasurer, Middle Atlantic Placement Officers Association. Member of Executive Committee, Relations with Industry Division, American Society for Engineering Education; Pittsburgh Personnel Association.

GEORGE C. GRIFFIN, Dean of Students, Georgia Institute of Technology. Graduated from Georgia Tech. B.S.E.E. Has served as track coach,

athletic director, head of mathematics department in Georgia colleges; Assistant Dean of Students, Georgia Tech. Ensign, U.N.R.F., World War I. Captain, U.S.N.R., World War II.

ANNA M. HANSON, Director of Placement, Simmons College. Graduated from Simmons College. Served as assistant secretary to President, Mt. Holyoke College; secretary to Department of Social Sciences, Yale University. Director of Teacher Placement Office, Yale Graduate School. Member and First Vice President, Eastern College Personnel Officers Association; member and Secretary, Study Commission, Council of Guidance and Personnel Associations; member, American College Personnel Association; Women's Personnel Club; Personnel Club, Boston Chamber of Commerce; Counseling Committee, Y.M.C.A.

ARMAND C. STALNAKER, Commerce Placement Director and Assistant Professor of Business Organization, Ohio State University. Graduated from University of Cincinnati. M.A. University of Pennsylvania. Served as public school teacher, principal, salesman and personnel worker.

CHARLES H. ROMINGER

Due to the fact that he is no longer directly concerned with educational placement work, Dr. Charles H. Rominger, formerly Professor of Philosophy and Religion, Cedar Crest College, Allentown, Pennsylvania, long time member of the Executive Board, tendered his resignation at the annual meeting, "to make way," as he put it, "for one more actively engaged in placement work." Dr. Rominger became interested in the Association during the early stages of its development and through the years that followed played an important part in the expansion of its activities, always being of particular value due to his fresh ideas and pertinent advice on matters relating to the educational guidance and placement of college women. While nominally withdrawing from official connection with the Association, the officers and board members informally expressed their earnest hope that Dr. Rominger would continue to make himself available for consultation.

COMING MEETINGS

Eastern College Personnel Officers Association. Mansion House, Poland Springs, Maine. October 17-19, 1949.

Association of School and College Placement—Southern Section. University of Louisville, Louisville, Kentucky. December 2, 3, 1949.

Too Late for Classification

CORPORATIONS PLANNING TO RECRUIT COLLEGE SENIORS IN 1949-50

Container Corp. of America, 38 South Dearborn St., Chicago 3, Ill. Constance M. Steele. Training programs—production, sales, accounting.

Electric Auto-Lite Co., Toledo 1, Ohio. P. G. Robinson.

**Linde Air Products Co., Tonawanda, N. Y. Bruce J. Miller.

National Starch Products, Inc., 270 Madison Ave., New York 27, N. Y. W. V. Upton. Middle Atlantic, possibly Mid-west, South. Training programs—chemistry and chemical engineering.

**Recruiting plans not definite.

MANAGEMENT'S RESPONSIBILITIES IN COLLEGE GRADUATE RECRUITMENT*

TODAY in America an ever-increasing number of young people are continuing their education beyond the high school level. Along with this trend, there is another trend that shows more and more companies seeking to recruit college graduates or employes having some college training. If effective use is to be made of these employes' educational backgrounds, management will have to give more attention to selection and placement.

Since it takes time to develop whatever potential an employe possesses, any college graduate employment program should be long-range in scope and carried on through the years to the extent possible, regardless of economic conditions. It should be geared to future needs and promotional opportunities within the organization, rather than to current job requirements. In order to take care of future needs, it may be good practice to recruit college graduates for development at times when the organization does not currently need new employes.

It is just as important, however, that an employer does not over-recruit when economic conditions seem favorable and the business is expanding. Opportunity within the organization should be the principal criterion of the size and scope of the college graduate recruiting program.

Any organization that employs college graduates and establishes a recruiting program to obtain them assumes certain general responsibilities in connection with it: (1) One person should be assigned the responsibility for coordinating the recruiting and college or university relations activities, and that person should be qualified to discuss scholarships, research grants, and other forms of assistance. (2) Where a college placement officer has been appointed, contacts regarding employment should be made only with him. (3) The employer should use great care in selecting representatives who are to interview students. Those selected should be qualified to give a reasonable amount of factual information on their organization and the opportunities it offers. They should be capable of developing a favorable impression of themselves and the company. And management should insure that they have no stereotyped concepts as to personal characteristics that will have greatest acceptability to the firm.

There are also certain specific responsibilities employers must assume if they are to obtain maximum cooperation from the schools they contact and optimum effectiveness from their recruiting efforts.

They should furnish to the college placement bureau adequate information on the number and fields of education of students they wish to interview and the fields of work for which these applicants are to be considered. When recruiting prospects for specific jobs, descriptions of the duties and requirements of these jobs should be furnished. In addition, employers should specify the qualifications, such as minimum scholastic average, characteristics they consider desirable, extra-curricular activities, and condition of health, that are expected of the graduate to be employed.

The placement office should also be furnished with honest, factual information on the organization, its products or functions, locations, and the current financial status. The firm should make available an adequate supply of any literature it wants distributed to students, as well as any forms—such as applica-

*From *Helping Students Find Employment*, by Forrest H. Kirkpatrick, *et al.* American Council on Education Studies, Washington, D. C., April, 1949. 37 pages. 75 cents. Reprinted from *The Management Review*, July, 1949.

tions or rating sheets—that are to be completed by students or faculty members.

The recruiting officers should arrange with the placement bureau for a mutually satisfactory date for interviews and furnish definite information as to time of arrival on campus, length of interviews desired, time of departure, and whether or not a group meeting with students is needed. These arrangements should be made at least one month prior to the date of interview.

Business representatives should be willing and prepared to talk with all prospective graduates who are personally interested in the company, to hold group meetings with students or faculty members, and to take part in student personnel conferences and forums when requested to do so.

After the recruiting officer has completed his interviews, discussed the qualifications of the applicants with faculty members or the placement officer, and has had an opportunity to analyze the results, he should furnish the placement office with copies of any correspondence with students, such as that regarding further interviews to be made at the company or containing offers of employment. The employer should also be willing to furnish the college reasonable follow-up information on graduates recruited in the past.

Recruiters should take into account the problems of the school and not expect unreasonable services from it.

The interviewer should be prepared to answer the student's questions relative to possible employment with the organization. The recruiting officer should furnish the student with adequate factual information on such items as recruiting procedure, training program, organization, functions, products, marketing structure, business locations, starting salaries for graduates, promotional opportunities, general personnel policies, and benefit plans. Moreover, the student should be given some idea of the competitive aspects of promotional opportunities within the organization. The employer should refrain from use of high-pressure sales methods in attracting graduates.

As soon as it has been determined whether or not the student is to be considered further, he should be notified of the status of his application. It is just as important to notify those applicants who are rejected as it is those who are being given consideration for employment. If the student is to be invited to the company for further interviews, the invitation should be in writing and should clearly stipulate any conditions in connection with the trip—such as the type of job or training program for which he is to be interviewed, and for what traveling expenses he will be reimbursed.

Offers of employment should be made in writing. The student should not be expected to meet too close a deadline in accepting or rejecting a job offer; he shall have ample opportunity to consider other firms' propositions.

To insure the most effective use of the graduates employed, some form of orientation training program should be established, and the graduate's progress followed up until he is established in the place where he can make his greatest contribution to the organization.

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At the turn of the century, states the Conference Board, 500,000 students were enrolled in high schools in the United States. Nearly half a century later, 5,500,000 students were enrolled in the nation's secondary schools. In 1900, there was one teacher for each 37 students, while currently each teacher has classes numbering 27. Teachers' salaries have meanwhile risen 600 per cent (from $325 per annum in 1899 to $1,995 in 1946).

—The Management Review, July, 1949

FINANCING A BUSINESS WILL

Every business worth perpetuating should have a plan for continuance of the organization as a "going" concern in case of the death of one of the owners. The continued operation of the firm can be assured through a properly financed "business will."

The facilities of The Penn Mutual Life Insurance Company have been used in many cases to provide the required cash through business insurance on the lives of the owners of the business.

Our underwriters are highly trained and experienced men who find rewarding careers in providing the solution to financial problems arising from the death of a partner or one of the stockholders in a close corporation.

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INDEPENDENCE SQUARE, PHILADELPHIA

THE ASSOCIATION OF SCHOOL AND COLLEGE PLACEMENT

2721 Fidelity-Philadelphia Trust Building, 123 S. Broad Street, Philadelphia 9, Pa.

President, and Chairman of the Executive Board
GORDON A. HARDWICK
Partner, Montgomery, Scott & Co., Philadelphia, Pa.

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President Hardwick, in his announcement of the establishment of this Committee, made the following statement:

"It is believed that this new committee will have a profound effect upon the trend of thought in the future in the increasingly broad field of College Placement. It is felt that while various forces have been at work in recent years in helping to fix the attention of educators upon this problem of placement as an educational function, the present time seems highly propitious for a new step in pointing the way to definite standards of procedents for the set-up of such departments within the colleges, and this new committee has, for one of its principal purposes, the accomplishment of this objective."

GRADES OF MEMBERSHIP

Sustaining Membership: Cash contributions ranging up to $200.00, entitling the member to advertising space if desired.*

Institutional Membership: Full membership for two representatives of an institution, including a year's subscription for each to the journal, "SCHOOL AND COLLEGE PLACEMENT, $7.00 per year.

Regular Membership: Full membership for one individual, including a year's subscription to the journal, $4.00 per year.

*Sustaining Members not using advertising space include E. I. DuPont de Nemours and Company, Reading Company and Sun Oil Company.

Address all communications to
The Association of School and College Placement